Journal of Chemical Education

Print Software Online Books

Owned and Published by THE DIVISION OF CHEMICAL EDUCATION, INC. OF THE AMERICAN CHEMICAL SOCIETY

Index, Volume 73, 1996

Publisher

Division of Chemical Education, Inc.
Chair: John W. Moore
Chair-Elect: Ronald Archer
Past Chair: Ron Perkins
Secretary/Councilor: Jerry L. Sarquis
Treasurer: Mary Virginia Orna, O.S.U.
Member-at-Large: Diane M. Bunce
Councilors: Jerry A. Bell, Loretta Jones, Conrad Stanitski

Editorial Staff, 1/96 through 8/96

Editor: J. J. Lagowski

Assistant Editor: Debora Ann Bittaker

Editorial Assistants:
Christopher T. Boyd
James M. McNamara
Marsha W. Turlington
Paul Willard
Linda Davis Kyle
Christine M. Quaid
Rita D. Wilkinson

Editorial Staff, 9/96 through 12/96

Editor: John W. Moore

Associate Editors:
Jon L. Holmes, Elizabeth A. Moore, Mary Saecker

Assistant Editors:
Nancy S. Gettys
Lin W. Morris
Carol Steinhart
Eric Kolstad
Amanda Reinert
Alice Teter

Feature Columns and Their Editors

Applications & Analogies (AA)	Ron DeLorenzo
Chemistry for Kids (CK)	Linda Woodward
Chem. Information Instructor (CII)	Arleen M. Somerville
Chem. Principles Revisited (CP)	Harold H. Harris
Computer Bulletin Board (CBB)	Russell H. Batt and Steven Gammon
Computer Series (CS)	James P. Birk
Concepts in Biochemistry	William Scovell
Curricular Change Digests (FORUM)	Baird W. Lloyd
Discovering...	Brenda and Paul Cohen
Exam Question Exchange (EQE)	John J. Alexander
Cooperative Education (COOP)	Geoffrey Davies and Jiwon Kim
Filtrates & Residues (F&R)	James O. Schreck
Inventory Control (IC)	Harold H. Harris
Letter to the Editor (LTE)	
Microscale Laboratory (ML)	Arden P. Zipp
Modern Student Laboratory (MODLAB)	
NSF Highlights (NSF)	Susan H. Hixson and Curtis T. Sears, Jr.
Overhead Projector Demos (OP)	Doris K. Kolb
Products of Chemistry (PROD)	George B. Kauffman
Provocative Opinions (PO)	
Safety Tips (ST)	Timothy Champion
Symposium (SYM)	
Tested Demonstrations (TD)	George L. Gilbert and Edward Vitz
Textbook Forum (TF)	Ralph K. Birdwhistell
Topics in Chem. Instrum. (TCI)	Howard Strobel
Trading Post (TP)	Marcia C. Bonneau
View from My Classroom (VIEW)	Frank Cardulla

Board of Publication

Chair: David K. Lavallee
Ronald Archer
Harriet G. Friedstein
Doris K. Kolb
Jerry L. Sarquis
Jerry A. Bell
John Gelder
Ron Perkins

Secondary School Section

Editor: Mickey Sarquis
Editor-Elect: J. Emory Howell

Business Management

Publications Coordinator: Kenneth Emerson

Advertising Representative

McNeill Group, Inc.
Advertising Sales Manager: Rob Britt

Editorial Offices

University of Wisconsin–Madison
Department of Chemistry
209 North Brooks Street
Madison, WI 53715-1116

Phone: 608-262-7146; 1-800-991-5534
FAX: 608-262-7145
email: jce@chem.wisc.edu
WWW: http://jchemed.chem.wisc.edu

Journal of Chemical Education

Annual Index • Volume 73 • 1996

The Annual Index for Volume 73 of the *Journal of Chemical Education* is divided into three parts: Author, Subject, and Book Review. The Author Index lists each author of an article as well as the title, month, and page number. The Subject Index is organized by keywords with articles listed by author, title, month, and page number. The Book Review Index is divided into Book Titles, Book Authors, and Book Reviewers. A key to the abbreviations used in the index are found on page 1199.

Author Index

A

Abbassian, Soraya; Birk, James P. Teaching VSEPR: The Plastic Egg Model. July, 636.

Acheson, R. M. The Discovery of Free Radicals. January, 32.

Acree Jr., William E.; Powell, Joyce R.; Tucker, Sheryl A.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.

Adam, D. J.; Mainwaring, J.; Quigley, Michael N. Soxhlet Extraction of Caffeine from Beverage Plants. December, 1171.

Adamchik, Jr., Charles F. The Design and Assessment of Chemistry Portfolios. (TP) June, 528.

Adams, David L. Metal Hydrides and the Dawn of the Atomic Age. March, 205.

Ahuja, Eric; Fietkau, Roland. A "V" Groove Nebulizer for Flame AAS. January, 102.

Akhtar, Mohammad J.; Kerber, Robert C. Getting Real: A General Chemistry Laboratory Program Focusing on "Real World" Substances. (FORUM) November, 1023.

Albertazzi, Pier Giorgio; Regis, Alberto; Roletto, Ezio. Concept Maps in Chemistry Education. November, 1084.

Ali, Imran. A Compact Steam Distillation Apparatus. March, 285.

Ali, Saqib; Danish, M. Disposable Syringe Used as a Grease Applicator. May, 475.

Allen, John M.; Ramachandran, B. R.; Halpern, Arthur M. Air–Water Partitioning of Environmentally Important Organic Compounds: An Environmental Chemistry or Integrated Laboratory Experiment. November, 1058.

Almy, John; Herrera, Antonio; Martín, Nazario; Seoane, Carlos; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro[6,6]C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.

Alvarez J., Galvez; Roca R. M., Soler. A Simple Algorithm for the Distinction of Reaction Mechanisms Based on the Measurement of Additive Properties. March, 214.

Alvarez, J. Galvez; García-Doménech, R.; de Julián-Ortiz, J. V.; Antón-Fos, G. M. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.

Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS–MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.

Amsterdamsky, Claude. Phase Transfer Catalysis Applied to Oxidation. January, 92.

Anderson, Guy E. Small Scale Electrolytic Cells. (ML) August, A172.

Anderson, Guy E. A Simpler Small Scale Method for the Identification of Plastics. (ML) August, A173.

Anderson, Mark R.; Tissue, Brian M.; Earp, Ronald L.; Yip, Ching-Wan. Development and Evaluation of Internet-Based Hypermedia Chemistry Tutorials. (NSF) May, 446.

Anderson, Michael; Buckley, Amy. Equilibrium Constants You Can Smell. (TD) July, 639.

Anderson, Paul; Organ, Michael G. Carbonyl and Conjugate Additions to Cyclohexenone: Experiments Illustrating Reagent Selectivity. December, 1193.

Anderton, Christian A.; Miles, William H.; Nutaitis, Charles F. Iron(III) Chloride as a Lewis Acid in the Friedel–Crafts Acylation Reaction. March, 272.

Andraos, John. On the Propagation of Statistical Errors for a Function of Several Variables. February, 150.

Angelos, Sanford A.; Kostecka, Keith S.; Lerman, Zafra M. Use of Gas Chromatography—Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.

Aniker, Keith S.; Sen, Stephanie E. ^{1}H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.

Antón-Fos, G. M.; García-Doménech, R.; de Julián-Ortiz, J. V.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.

Anwar, Jamil; Nagra, Saeed Ahmad; Nagi, Mehnaz. Thin-Layer Chromatography: Four Simple Activities for Undergraduate Students. October, 977.

Arnáiz, Francisco J. Activity Series of Metals. (LTE) October, A225.

Arnáiz, Francisco J. Easy Filling of Capillaries in an Inert Atmosphere. (ML) May, A102.

Arnáiz, Francisco J. The Synthesis of [Pd(μ-Cl)(C_6H_4N=NPh)]$_2$. (ML) June, A126.

Arnold, Tyrone V.; Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.

Asano, T.; Kanda, N.; Itoh, T.; Onoda, M. Preparing "Chameleon Balls" from Natural Plants: Simple Handmade pH Indicator and Teaching Material for Chemical Education. (Corrections) May, 425.

B

Bachofer, Steven J. Conductivity, a Simple Method To Probe Micellar Solutions. September, 861.

Bader, Morris. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.

Bailey, David N.; Rettich, T. R.; Frank, Forrest J.; Frick, Jeffrey A. An Integrated Curriculum for First- and Second-Year Chemistry Courses. (NSF) July, 638.

Bakalbassis, E. G.; Stiakaki, M.-A. D.; Tsipis, A. C.; Tsipis, C. A. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part I. Instrumentation and Spectral Interpretation (CI). April, A82.

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.

Bakhtiar, Ray; Hop, Cornelius E. C. A. Electrospray Ionization Mass Spectrometry: Part III: Applications in Inorganic Chemistry and Synthetic Polymer Chemistry. (TCI) August, A162.

Banerjee, Anil. Chemical Equilibrium. (LTE) November, A262.

Baonza, Valentín García; Cáceres, Mercedes; Núñez, Javier. Mechanical Coefficients of Liquids by a Differential Expansion Method: A Physical Chemistry Experiment. July, 690.

Barceló, A. Ros; Zapata, J. M. Measurement of Quantum Yield, Quantum Requirement, and Energetic Efficiency of the O_2-Evolving System of Photosynthesis by a Simple Dye Reaction. November, 1034.

Barmettler, Peter. Biochemical Data on the Web. (CS #186) June, 520.

Barry, Dana M. Schools Benefit from Clarkson's CAMP. March, 209.

Barry, Eugene F.; Conte, Eric D.; Rubinstein, Harry. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An Experiment for the Undergraduate Analytical Laboratory. December, 1169.

Battino, Rubin; Wood, Scott E. The Gibbs Function Controversy. (SYM) May, 408.

Battino, Rubin; Weimer, Peter M. The Incredible Glowing Pickle and Onion and Potato and.... (TD) May, 456.

Battino, Rubin; Scharlin, Pirketta; Cleveland, Audrey A.; Thomas, Monica E. Glowing Veggies. (TD) May, 457.

Battino, Rubin; Hall, Michael R. Making an Inexpensive Tesla Coil from a Car Coil. August, 817.

Bausch, Rainer. Osmotic Pressue and Electrochemical Potential. (LTE) December, A294.

Bautista, Maria T.; Bynum, Lynikka D.; Schauer, Cynthia K. Synthesis of η^2-Dihydrogen Complex, *trans*-[Fe(η^2-H_2)H[1,2-bis(diphenylphosphino)-ethane]$_2$][BF_4]: An Experiment for an Advanced Inorganic Chemistry Laboratory Involving Synthesis and NMR Properties of an η^2-H_2 Complex. October, 988.

Beall, H. Report on the WPI Conference "Demonstrations as a Teaching Tool in Chemistry: Pro and Con". July, 641.

Beall, Herbert. Report on the WPI Conference: General Chemistry and Materials Science: The Interrelationships. August, 756.

Beasley, Warren. Reforming the Visions of High School Chemistry: A Perspective from "Down Under". April, 344.

Beauchamp, Jesse L.; Okumura, Mitchio; Dickert, Jeffrey M.; Easy, Blair R.; Claypool, Christopher L. Undergraduate Laboratory for Surface Science. (NSF) February, 142.

Becker, Pamela; Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.

Bedell, Brooke L.; Crouch, R. David; Holden, Michael S.; Martinson, Heidi E. A Glycosidation Reaction Employing Montmorillonite K-10 as Catalyst. (ML) November, 1041.

Bedell, Cynthia M.; Buccigross, Jeanne M.; Suding-Moster, Heather L. Fluorescent Measurement of TNS Binding to Calmodulin: A Biochemistry Laboratory Experiment. March, 275.

Begin, Kelly J.; Sproch, Norman; Morris, Robert J. The Modern Student Laboratory: Chromatography: An LC/Particle Beam/MS Experiment for Undergraduates. (MODLAB) February, A33.

Bell, Jerry A. American Association for the Advancement of Science. What is AAAS? Why Should *Journal* Readers Be Interested? September, A196.

Bello, M. A.; González, A. Gustavo. Determination of Phosphate in Cola Beverages Using Nonsuppressed Ion Chromatography: An Experiment Introducing Ion Chromatography for Quantitative Analysis . December, 1174.

Bendall, Victor I. COS: Organic Reaction Drills Based Upon Collective Organic Syntheses. (JCE: Software) April, 323.

Benini, Omar; Cervellati, Rinaldo; Fetto, Pasquale . The BZ Reaction: Experimental and Model Studies in the Physical Chemistry Laboratory. September, 865.

Berberan-Santos, Mário N.; Pogliani, Lionello. Inflation Rates, Car Devaluation, and Chemical Kinetics. October, 950.

Berger, Tomás G.; Mellon, Edward K. A Multistep Equilibria-Redox-Complexation Demonstration To Illustrate Le Châtelier's Principle. (TD) August, 783.

Berka, Karen M.; Berka, Ladislav H. Developing Student Speaking Skills: A Project/Independent Study in Forensic Science. October, 931.

Berka, Ladislav H.; Elderd, Dianne M.; Kildahl, Nicholas K. Experiments for Modern Introductory Chemistry: Identification of Arson Accelerants by Gas Chromatography. July, 675.

Berka, Ladislav H.; Berka, Karen M. Developing Student Speaking Skills: A Project/Independent Study in Forensic Science. October, 931.

Berry, David E.; Girard, Suzanne; McAuley, Alexander. The Synthesis and Reactions of Nickel(III) Stabilized by a Nitrogen-Donor Macrocycle. June, 551.

Bettis, Cliff; Lyons, Edward J.; Brooks, David W. Illustrating Fourier Transforms. September, 839.

Bevenour, Julie; Trumbore, Conrad N.; Scantlebury, Kathryn. Chemistry and the Human Environment: A Course for Non-Science Majors. November, 1012.

Bieda, Kelly L.; Purrington, Suzanne T. The Neglected Element in Sophomore Organic Chemistry. August, 754.

Bieron, Joseph F.; McCarthy, Paul J.; Kermis, Thomas W. A New Approach to the General Chemistry Laboratory. (FORUM) November, 1021.

Bigger, Stephen W.; Craig, Robert A. Monte Carlo Approach to Generating the Probability-Distribution Function of a Classical Harmonic Oscillator. (CS #188) August, 724.

Billo, E. Joseph. Displaying Chemical Formulas in Microsoft Excel. (CBB) February, A40.

Bindel, Thomas H. Lightstick Magic: Determination of the Activation Energy with PSL. (F&R) April, 356.

Binning, Robert; Vitz, Ed. Inexpensive Exemplars for the Wave Model of Electronic Structure and Light. (TD) February, 171.

Birk, James P.; Kurtz, Martha J. Using Cooperative Learning Techniques To Train New Teaching Assistants. July, 615.

Birk, James P.; Abbassian, Soraya. Teaching VSEPR: The Plastic Egg Model. July, 636.

Black, Suzanne L. General Chemistry Laboratory–Scientific Inquiry: 157 New Experiments in One Semester. August, 776.

Blackman, Adrian J. Four Programs for Windows: Abstract of Volume 4D, Number 2: SPECPNMR: A Proton NMR Slide Show. (JCE: Software) November, 1078.

Blackman, Adrian J. A Pedagogical Approach to Qualitative Organic Analysis: Simulating the Integration of Wet Tests Spectroscopy and Common Sense. (CS #185) May, 434.

Blume, Rüdiger; Hildebrand, Achim; Hilgers, Uwe; Wiechoczek, Dagmar. Playing with the Soccer Ball—an Experimental Introduction to Fullerene Chemistry. November, 1066.

Bonicamp, Judith M. Procedure Modification for the Use of Corn Starch Packing Puffs for Titration Endpoints. March, 258.

Bonser, Amy M.; Moe, Owen A. Labeling Histidines in Cytochrome c: An Integrated Laboratory Project. August, 794.

Booth, Harold; Hey, Michael J. DNA before Watson & Crick—The Pioneering Studies of J. M. Gulland and D. O. Jordan at Nottingham. October, 928.

Bowlus, R. David; Grether, Susan C. A Rapid PCR Lab Exercise. (LTE) May, 477.

Bradley, J. D.; Ogude, N. A. Electrode Processes and Aspects Relating to Cell EMF, Current, and Cell Components in Operating Electrochemical Cells: Precollege and College Student Interpretation. December, 1145.

Bradley, John D.; Glasser, Lesile; Brink, George; van Zyl, Pam. CAI for Chemistry. (JCE: Software) April, 323.

Braga, Fernando G. Inexpensive Small-Scale Sonochemistry with Magnetic Agitation. (ML) May, A104.

Bragin, Victoria M. Interactive Computer Visualization in the Introductory Chemistry Curriculum. (NSF) August, 747.

Branca, Mario; Loiselle, Steven. A Manageable Measurement Method for Sodium. September, 857.

Branham, Thomas R.; Wolfson, Adele J.; Hall, Mona L. An Integrated Biochemistry Laboratory, Including Molecular Modeling. November, 1026.

Braun, Robert D. Operational Amplifier Experiments for the Chemistry Laboratory. September, 858.

Bravo-Díaz, Carlos; González-Romero, Elisa. Showing Emulsion Properties with Common Dairy Foods. September, 844.

Brazdil, Linda C. Oxygenates in Gasoline: A Versatile Experiment Using Gas Chromatography. November, 1056.

Bressan, Stephanie E.; Everett, Kenneth G.; DeLoach, Will S. Women in the Ranks: Faculty Trends in the ACS-Approved Departments. February, 139.

Brink, George; Glasser, Lesile; Bradley, John D.; van Zyl, Pam. CAI for Chemistry. (JCE: Software) April, 323.

Brockman, Mark; Ordman, Alfred B.; Campbell, A. Malcom. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.

Brooks, David W.; Bettis, Cliff; Lyons, Edward J. Illustrating Fourier Transforms. September, 839.

Brooks, David W. Square Roots of Negative Numbers. (LTE) May, 478.

Brouwer, Henry. Work Done by a Chemical Reaction. (TD) April, 354.

Brożek, Celestyn M. Simple and Attractive Demonstration of the Reversibility of Chemical Reactions. (TD) September, 837.

Buccigross, Jeanne M.; Hayes II, Jerry W.; Metz, Christa S. Isolation and Purification of Calmodulin from Bovine Brain: A Biochemistry Experiment. March, 273.

Buccigross, Jeanne M.; Bedell, Cynthia M.; Suding-Moster, Heather L. Fluorescent Measurement of TNS Binding to Calmodulin: A Biochemistry Laboratory Experiment. March, 275.

Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.

Buchholz, Fredric L. Superabsorbent Polymers: An Idea Whose Time Has Come. (PROD) June, 512.

Buckley, Amy; Anderson, Michael. Equilibrium Constants You Can Smell. (TD) July, 639.

Burke, Jeffrey T. Economical Mixed Solvents for NMR Studies. June, 550.

Burness, James H. Oxygen from Hydrogen Peroxide: an Experimental Modification. (F&R) September, 851.

Burness, James H. A Convenient, Inexpensive, and Environmentally Friendly Method of Measuring the Vapor Pressure of a Liquid as a Function of Temperature. October, 967.

Burness, James H. A General Chemistry Final Exam Based on the Chemical Literature. December, 1120.

Bynum, Lynikka D.; Bautista, Maria T.; Schauer, Cynthia K. Synthesis of η^2-Dihydrogen Complex, *trans*-[Fe(η^2-H_2)(H)(1,2-bis(diphenylphosphino)ethane)$_2$][BF_4]: An Experiment for an Advanced Inorganic Chemistry Laboratory Involving Synthesis and NMR Properties of an η^2-H_2 Complex. October, 988.

C

Caballero, Julio F.; Mina-Camilde, Nairmen; Manzanares I., Carlos. Molecular Constants of Carbon Monoxide at v = 0, 1, 2, and 3: A Vibrational Spectroscopy Experiment in Physical Chemistry. August, 804.

Cáceres, Mercedes; Baonza, Valentín García; Núñez, Javier. Mechanical Coefficients of Liquids by a Differential Expansion Method: A Physical Chemistry Experiment. July, 690.

Calatayud, Ma Luisa; Furio, Carlos. Difficulties with the Geometry and Polarity of Molecules: Beyond Misconceptions. January, 36.

Campbell, A. Malcom; Brockman, Mark; Ordman, Alfred B. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.

Campbell, Mark L. A Systematic Method for Determining Molecular Term Symbols for Diatomic Molecules Using Uncoupled-States Orbital Diagrams. August, 749.

Camusso, Celso; Maroto, Beatriz. Assessment of Knowledge Acquired in an Organic Chemistry Course. March, 231.

Cannon, John F.; Scott, Jacqueline L.; Gammon, Steven D.; Hunsberger, Lynn R. Beer's Law: A Computerized Experiment. (JCE: Software) April, 324.

Carpenter, D. K. A Controversy about the Gibbs Function: Introduction to the Paper Symposium. (SYM) May, 384.

Carpenter, Peter D.; Marriott, Philip J. Capillary Gas Chromatography Injection: An Exercise for Students of Instrumental Analysis. January, 96.

Carr, James D.; Kelter, Paul B.; Johnson, Tanya; Castro-Acuña, Carlos Mauricio. The Chemical and Educational Appeal of the Orange Juice Clock. (TD) December, 1123.

Carter, Henry A. The Chemistry of Paper Preservation: Part 1. The Aging of Paper and Conservation Techniques. May, 417.

Carter, Henry A. The Chemistry of Paper Preservation: Part 2. The Yellowing of Paper and Conservation Bleaching. November, 1068.

Carter, Henry A. The Chemistry of Paper Preservation: Part 3. The Strengthening of Paper. December, 1160.

Castro-Acuña, Carlos Mauricio; Kelter, Paul B.; Carr, James D.; Johnson, Tanya. The Chemical and Educational Appeal of the Orange Juice Clock. (TD) December, 1123.

Cates, Norman E.; Hauser, Peter C. An Inexpensive Detector for Absorbance Measurements in Flow-Injection Analysis. February, 191.
Cavaleiro, Ana M. V. S. V. The Teaching of Precipitation Equilibrium: A New Approach. May, 423.
Cervellati, Rinaldo; Benini, Omar; Fetto, Pasquale . The BZ Reaction: Experimental and Model Studies in the Physical Chemistry Laboratory. September, 865.
Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.
Chan, C.L.; Lee, Albert W. M.; Leung, K. M.; Kwong, Daniel W. J. Symmetry Elements and Operations. (JCE: Software) October, 924.
Chapman, Orville L.; Magner, John T.; Selke, Matthias; Russell, Arlene A. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.
Charonnat, Jeffrey A.; Steinberg, Cathleen S. Microscale Synthesis of 2,3:5,6-Di-*O*-isopropylidene-α-D-mannofuranose ("Diacetone Mannose"). (ML) August, A170.
Chen, Carol; Dyer, Jeanne Murgado; Strawbridge, Patricia B. Report: 1996 Cost-Effective, Hands-On Chemistry Education Conference. October, A236.
Chen, Wen; Orna, O.S.U., Mary Virginia. Recent Advances in Archaeological Chemistry: A Summary of Three Major Papers Presented as an Introduction to the Archaeological Chemistry Symposium, Anaheim, California. June, 485.
Chenault, H. Keith; McClure, Cynthia K. Chemoenzymatic Synthesis of an Enantiomerically Pure Lactone: A Three-Step Synthesis for Undergraduate Organic Chemistry Laboratory. May, 467.
Chia, L. S.; Subramaniam, R.; Goh, N. K. On the Masses of the Fundamental Particles in the Bound State. July, 663.
Childs, Scott L.; Hagen, Karl S. The Inorganic Illustrator: A 3-D Graphical Supplement for Inorganic and Bioinorganic Chemistry Courses Distributed on CD-ROM. (NSF) October, 917.
Chon, C.; Poiré, C.; Rabiller, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Chowdhury, Mihir. Selection Rules for Processes Involving Photon–Molecule Interaction: A Symmetry-Conservation-Based Approach Bypassing Transition Matrix Elements. August, 743.
Ciaccio, James A.; Volpi, Sabrina; Clarke, Ransford. Grignard Reaction of an Epoxide: A Mechanistic Study. December, 1196.
Clark, Roy W. The Microwave Oven Syndrome. (LTE) March, 286.
Clarke, Ransford; Ciaccio, James A.; Volpi, Sabrina. Grignard Reaction of an Epoxide: A Mechanistic Study. December, 1196.
Clausen, Thomas P.; Johnson, Beverly; Wood, Jim. A Mixed Aldol Condensation-Michael Addition Experiment. March, 266.
Claypool, Christopher L.; Okumura, Mitchio; Beauchamp, Jesse L.; Dickert, Jeffrey M.; Esay, Blair R. Undergraduate Laboratory for Surface Science. (NSF) February, 142.
Cleary, D. A.; Crumpton, D. M.; Laitinen, R. A.; Smieja, J. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.
Cleveland, Audrey A.; Scharlin, Pirketta; Battino, Rubin; Thomas, Monica E. Glowing Veggies. (TD) May, 457.
Cluff, Ciaran L.; Hansen, Lee D.; Garner, Judy L.; Wilson, Byron J.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.
Cohen, Brenda H.; Cohen, Paul S. Discovering... New Orleans. March, A51.
Cohen, Brenda H.; Cohen, Paul S. Discovering... Orlando. July, A144.
Cohen, Paul S.; Cohen, Brenda H. Discovering... New Orleans. March, A51.
Cohen, Paul S.; Cohen, Brenda H. Discovering... Orlando. July, A144.
Cohen, Paul S.; Cohen, Stephen M. Wöhler's Synthesis of Urea: How Do the Textbooks Report It? (TF) September, 883.
Cohen, Stephen M.; Cohen, Paul S. Wöhler's Synthesis of Urea: How Do the Textbooks Report It? (TF) September, 883.
Coleman, William F. Curve Fitting: An Alternative Approach to Analyzing Kinetic Data in Introductory Chemistry. (CS #183) March, 243.
Comba, Peter; Zimmer, Marc. Inorganic Molecular Mechanics. February, 108.
Conklin, Jr., Alfred R.; Kessinger, Angela. Demonstration of the Catalytic Decomposition of Hydrogen Peroxide. (TD) September, 838.
Conte, Eric D.; Barry, Eugene F.; Rubinstein, Harry. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An Experiment for the Undergraduate Analytical Laboratory. December, 1169.
Cooke, Ron C.; Willis, Grover C. Which E° Is it? The Story of a Student Discovery. (CP) May, 450.
Coppola, Brian P.; Smith, David H. A Case for Ethics. January, 33.
Courtney, Pamela; Mullin, Jerome. Using Inexpensive "Find & Circle" Word Search Software in the Study of Chemical Nomenclature. (CBB) June, A130.
Craig, Norman C. Entropy Diagrams. August, 710.
Craig, Robert A.; Bigger, Stephen W. Monte Carlo Approach to Generating the Probability-Distribution Function of a Classical Harmonic Oscillator. (CS #188) August, 724.
Craney, Chris; Mazzeo, April; Lord, Kaye. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.
Crawford, Rebecca D. Chem-Crostic. May, 454.
Crosby, G. A. Implications of the National Science Education Standards for Higher Education. September, A200.
Crosby, G. A. Graduate Programs in Chemistry: A Time for Innovation and Reform. October, A235.
Crosno, S. K.; Kalbus, L. H.; Kalbus, G. E. Determinations of Carbon Dioxide by Titration: New Experiments for General, Physical, and Quantitative Analysis Courses. February, 175.
Crouch, R. David; Holden, Michael S.; Samet, Cindy. CAChe Molecular Modeling: A Visualization Tool Early in the Undergraduate Chemistry Curriculum. (NSF) October, 916.
Crouch, R. David; Bedell, Brooke L.; Holden, Michael S.; Martinson, Heidi E. A Glycosidation Reaction Employing Montmorillonite K-10 as Catalyst. (ML) November, 1041.
Crumpton, D. M.; Laitinen, R. A.; Smieja, J.; Cleary, D. A. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.
Cunningham, Kevin L.; Kegley, Susan E.; Hansen, Kristen J. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.
Curtright, Robert; Rynearson, James A.; Markwell, John. Anthocyanins: Model Compounds for Learning about More than pH. April, 306.

D

Dai, Le-Sui; Li, Jin; You, Li-Shu. A Modified Demonstration of the Activation Energy Concept. (TD) October, 948.
Dai, Sheng. Correct Regression Formula Used in Determination of Vaporization Enthalpy of Pure Liquids by UV-Visible Spectroscopy. February, 122.
Dalby, David K. Bigger and Brighter Flame Tests. (TD) January, 80.
Danish, M.; Ali, Saqib. Disposable Syringe Used as a Grease Applicator. May, 475.
Darensbourg, Marcetta Y. Simple Techniques Can Give Pleasurable Results. November, A273.
Darlington, Jeanne; Varco-Shea, Theresa C.; Turnbull, Marilyn. Group Project Format in First-Semester General Chem Lab. June, 536.
Davenport, Derek A. In This Issue: A Tribute to Linus Carl Pauling (1901–1994). January, 2.
Davenport, Derek A. Letters to F. J. Allen: An Informal Portrait of Linus Pauling. (SYM) January, 21.
Davenport, Derek A. The Many Lives of Linus Pauling: A Review of Reviews. September, A210.
Davenport, Michael; Dharmasiri, Kuruppu A. N.; Regentin, Curtis M.; Holland, Jack F.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.
David, Carl W. IR Vibration–Rotation Spectra of the Ammonia Molecule. January, 46.
Davies, Geoffrey. Cooperative Education: Experiential Cooperative and Study Abroad Education. (COOP) May, 438.
Davies, Keith M.; Saieed, Alfred E. A Simple Method for Determining the Temperature Coefficient of Voltaic Cell Voltage. (F&R) October, 959.
Davis, Lawrence C. Diffusion Confusion. (LTE) August, 824.
De Jesus, Karl; Robinson, Rolland K. The Mechanism of $NaBH_4$ Addition to Aldehydes: A Labelling Experiment. March, 264.
de Julián-Ortiz, J. V.; García-Doménech, R.; Antón-Fos, G. M.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.
de Vicente-Pérez, Santiago; García-Armada, Pilar; Losada, José. Cation Analysis Scheme by Differential Pulse Polarography. June, 544.
Deal, S. Todd; Wojciechowski, Brenda J. From Lecture Hall to the Laboratory: The Pinacol Rearrangement: Fostering Problem Solving Abilities and Critical Thinking Skills of the Organic Chemistry Student. January, 85.
Deal, S. Todd; Pope, Sandi R. Improved End Point Detection in the Redox Titration of Vitamin C in Green Peppers. June, 547.
Deavor, James P. Chemical Jeopardy. May, 430.
Deese, William; Washburn, Anna Marie. Relative Rates of Effusion through Punctured Balloons. (TD) June, 540.
DeGraff, Benjamin A.; Horner, David A. Luminescence Decay and Flash Photolysis Experiments Using an Inexpensive, Laser-Based Apparatus. March, 279.
DeKock, Roger L. Tendency of Reaction, Electrochemistry, and Units. October, 955.
Delaware, Dana L.; Fountain, K. R. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.
Delaware, Dana L.; Freeman, R. Griff; Moody, Anne E.; Van Galen, Dean. The Freshman Chemistry Seminar. (FORUM) February, 144.
DeLoach, Will S.; Everett, Kenneth G.; Bressan, Stephanie E. Women in the Ranks: Faculty Trends in the ACS-Approved Departments. February, 139.
DeLorenzo, Ronald. Egg in the Bottle. (LTE) September, A188.

DeLorenzo, Ronald. Root Mean Square. (LTE) December, A295.
Deltete, Robert J.; Thorsell, David L. Josiah Willard Gibbs and Wilhelm Ostwald: A Contrast in Scientific Style. April, 289.
Demirbas, Erhan; Devonshire, Robin. A Computer Experiment in Physical Chemistry: Linear Dichroism in Nematic Liquid Crystals. June, 586.
Dennison, Shelagh T.; Harrowven, David C. Cascade Sequences in Organic Synthesis: A Lesson from Nature? August, 697.
Denton, T. T.; Sullins, D. W.; Eisenbraun, E. J. Soxhlet Apparatus and Chromatography Columns Combined. April, 380.
Desai, Ranjit; Eskola, Philip. A Modified Splash Guard. June, 568.
Deutsch, John L.; Muenter, John S. The Nitrogen-Laser Excited Luminescence of Pyrene: A Student Laboratory Study of Excimer Dynamics. June, 580.
Dev, Vasu. Report of the CACT Summer Conference. February, 148.
Devaux, Guy; Nuhrich, Alain; Varache-Lembège, Martine; Lacan, Fabrice. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.
Devonshire, Robin; Demirbas, Erhan. A Computer Experiment in Physical Chemistry: Linear Dichroism in Nematic Liquid Crystals. June, 586.
Devore, J. A.; Ser·.zan, N. M. Carbon Monoxide Poisoning: Some Surprising Aspects of the Equilibrium between Hemoglobin, Carbon Monoxide, and Oxygen. August, 767.
DeVore, T. C.; Amenta, D. S.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Dharmasiri, Kuruppu A. N.; Davenport, Michael; Regentin, Curtis M.; Holland, Jack F.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.
Dickert, Jeffrey M.; Okumura, Mitchio; Beauchamp, Jesse L.; Essy, Blair R.; Claypool, Christopher L. Undergraduate Laboratory for Surface Science. (NSF) February, 142.
Dietz, Mark L.; Horwitz, E. Philip. An Improved Method for the Separation of Lead-210 from Ra-DEF for Radioactive Equilbrium Experiments: Microscale Liquid-Liquid Extraction Using a Polymer-Supported Crown Ether. February, 182.
Division of Chemical Education. Program for the 212th ACS Meeting. July, A146.
Dobrev, Alexandre A. "Course Thesis" as End of the Laboratory Experimental Program. September, 856.
Dobrzynski, Edward D. Voltaic Cell Measurements on a Spot Plate with a Cotton Swab Bridge. (ML) January, A6.
Dobson, D. A.; Viswanathan, R.; Lisensky, G. Off-the-Shelf Portable Data Acquisition: Interfacing a Serial-Port-Equipped Multimeter. (CBB) February, A41.
Dods, Richard F. A Problem-Based Learning Design for Teaching Biochemistry. March, 225.
Dombrink, Kathleen J. A Commercial Device Involving the Breathalyzer Test Reaction. (AA) February, 135.
Dominic, Sheryl. What's a Mole For? (TP) April, 309.
Donnelly, Thomas H. The Origins of the Use of Antioxidants in Foods. (PROD) February, 158.
Drago, Russell S.; Wong, Ngai M. The Role of Electron-Density Transfer and Electronegativity in Understanding Chemical Reactivity and Bonding. February, 123.
Drago, Russell S.; Vogel, Glenn C. The ECW Model. August, 701.
Drew, Steven M. Integration of National Instruments' LabVIEW Software into the Chemistry Curriculum. December, 1107.
Driscoll, Jerry A. Visible Ion Exchange Demonstration for Large or Small Lecture Halls. (TD) July, 640.
Duffy, J. A. Optical Basicity: A Practical Acid–Base Theory for Oxides and Oxyanions. December, 1138.
Duffy, Stephen J.; vanLoon, Gary W. Interfacing Techniques for Instrumental Analysis: An Exercise. (CS #184) April, 318.
Duncan, Robert L. Electronic Configuration Pattern Found in Pascal's Triangle. August, 742.
DuPre, Donald B. Blood or Taco Sauce? The Chemistry behind Criminalists' Testimony in the O. J. Simpson Murder Case. January, 60.
Durham, Bill; Goodrich, James. Interfacing "8088" Computers in the Chemistry Laboratory. (CBB) June, A131.
Dyer, Jeanne Murgado; Chen, Carol; Strawbridge, Patricia B. Report: 1996 Cost-Effective, Hands-On Chemistry Education Conference. October, A236.

E

Earley, Angela S.; Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.
Earp, Ronald L.; Tissue, Brian M.; Yip, Ching-Wan; Anderson, Mark R. Development and Evaluation of Internet-Based Hypermedia Chemistry Tutorials. (NSF) May, 446.
Earps, Edward; Swim, James; Reed, Laura M.; Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.
Eckey, Doris. A Millikan Oil Drop Analogy. (AA) March, 237.
Eddy, Roberta M.; Wood, John T. Olfactory Titration. (F&R) March, 257.
Eddy, Roberta M.; Wood, John T. What's the Shiny Stuff in Drano? (F&R) May, 463.
Eisenbraun, E. J.; Sullins, D. W.; Denton, T. T. Soxhlet Apparatus and Chromatography Columns Combined. April, 380.
Elder, John W.; Holtz, Kathleen M. Microwave Microscale Organic Experiments. (ML) May, A104.
Elderd, Dianne M.; Kildahl, Nicholas K.; Berka, Ladislav H. Experiments for Modern Introductory Chemistry: Identification of Arson Accelerants by Gas Chromatography. July, 675.
Elert, Mark; Koubek, Edward. A Demonstration of Crystal-Field Effects in Octahedral Complexes. (TD) October, 947.
Eliel, Ernest L.; Engelsman, Jan J. The Heats of Combustion of Gaseous Cyclotetradecane and *trans*-Stilbene—A Tale of Long-standing Confusion. September, 903.
Elliot, Lori; Buccigross, Jeanne M.; Metz, Christa; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.
Ellis, Arthur B.; Lisensky, George C. Journal of Chemical Education: Software: Abstract for Special Issue Number 12: The Solid State Resources CD. (JCE: Software) July, 667.
Ellis, Arthur B.; Winder, Edmund J.; Lisensky, George C. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.
Ems-Wilson, Janice. Following Microscale Organic Reactions Using FT–IR. (ML) August, A171.
Engelsman, Jan J.; Eliel, Ernest L. The Heats of Combustion of Gaseous Cyclotetradecane and *trans*-Stilbene—A Tale of Long-standing Confusion. September, 903.
Erickson, Luther E.; Morris, Kevin. A Physical Chemistry Lab Project: The Effect of Composition on Several Physical Properties of Binary Mixtures of Common Liquids. October, 971.
Erickson, Luther E.; Morris, Kevin F. NMR Determination of Internal Rotation Rates and Rotational Energy Barriers: A Physical Chemistry Lab Project. May, 471.
Eskola, Philip; Desai, Ranjit. A Modified Splash Guard. June, 568.
Essy, Blair R.; Okumura, Mitchio; Beauchamp, Jesse L.; Dickert, Jeffrey M.; Claypool, Christopher L. Undergraduate Laboratory for Surface Science. (NSF) February, 142.
Everett, Kenneth G.; DeLoach, Will S.; Bressan, Stephanie E. Women in the Ranks: Faculty Trends in the ACS-Approved Departments. February, 139.
Ezbiansky, Karin A.; McNeese, Timothy J. Photochemical Preparation and Reactivity of *cis*-$Cr(CO)_4(CH_3CN)_2$: An Advanced Undergraduate Inorganic Laboratory Experiment. June, 548.

F

Fábián, István; Kovács-Hadady, Katalin. Are They Really Sloppy? A Comparative Analysis of Student Performance in the Laboratory. May, 461.
Felder, Richard M. Active-Inductive-Cooperative Learning: An Instructional Model for Chemistry? September, 832.
Ferguson, Lawrence A. How Do I Balance Thee? ... Let Me Count the Ways! (TP) December, 1129.
Fetto, Pasquale; Benini, Omar; Cervellati, Rinaldo. The BZ Reaction: Experimental and Model Studies in the Physical Chemistry Laboratory. September, 865.
Fietkau, Roland; Ahuja, Eric. A "V" Groove Nebulizer for Flame AAS. January, 102.
Fitts, William; Nibler, Joseph W.; Minarik, Philip; Kohnert, Rodger. Gas-Phase NMR Study of the DCl–HBr Isotope Exchange Reaction. January, 99.
Fountain, K. R.; Delaware, Dana L. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.
Frank, Forrest J.; Rettich, T. R.; Bailey, David N.; Frick, Jeffrey A. An Integrated Curriculum for First- and Second-Year Chemistry Courses. (NSF) July, 638.
Freeman, R. Griff; Delaware, Dana L.; Moody, Anne E.; Van Galen, Dean. The Freshman Chemistry Seminar. (FORUM) February, 144.
Frick, Jeffrey A.; Rettich, T. R.; Bailey, David N.; Frank, Forrest J. An Integrated Curriculum for First- and Second-Year Chemistry Courses. (NSF) July, 638.
Frohlich, H. On the Entropy Change of Surroundings of Finite and of Infinite Size: From Clausius to Gibbs. August, 716.
Fuller, R. L.; Teweldemedhin, Z. S.; Greenblatt, M. Magnetic Susceptibility Measurements of Solid Manganese Compounds with Evan's Balance. September, 906.
Furio, Carlos; Calatayud, Mª Luisa. Difficulties with the Geometry and Polarity of Molecules: Beyond Misconceptions. January, 36.

G

Galicia, Laura; Torres, Luz María; Gil, Adrián F.; González, Ignacio. Understanding the Difference between Inner- and Outer-Sphere Mechanisms: An Electrochemical Experiment. August, 808.
Gallaher, T. N.; Amenta, D. S.; DeVore, T. C.; Zook, C. M.; Mosbo, J. A. GS–MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Gallaher, Thomas N.; Gaul, David A.; Schreiner, Serge. The Esterification of Trifluoroacetic

Acid: A Variable Temperature NMR Kinetics Study. May, 465.
Gamber, Melissa; Garin, David L.; Rowe, Bradley J. Epoxidation of Alpha-Methylstyrene and Its Lewis Acid Rearrangement to 2-Phenylpropanal. June, 555.
Gammon, Steven D.; Pharr, Christine M.; Malmberg, Barry J.; Jegla, John D. PVC Photometer: Computer-Assisted Spectroscopy Experiments. (CS #183) March, 238.
Gammon, Steven D. Four Programs for Windows: Abstract of Volume 4D, Number 2: PSL Photometer. (JCE: Software) November, 1077.
Gammon, Steven D.; Scott, Jacqueline L.; Cannon, John F.; Hunsberger, Lynn R. Beer's Law: A Computerized Experiment. (JCE: Software) April, 324.
Ganapathisubramanian, N. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
Gannaway, Susan P.; Stucke, Ann. New Literature Suggests that We Don't Have To Teach Everything in the Textbook. (TP) August, 773.
García-Armada, Pilar; Losada, José; de Vicente-Pérez, Santiago. Cation Analysis Scheme by Differential Pulse Polarography. June, 544.
García-Doménech, R.; de Julián-Ortiz, J. V.; Antón-Fos, G. M.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.
Garin, David L.; Gamber, Melissa; Rowe, Bradley J. Epoxidation of Alpha-Methylstyrene and Its Lewis Acid Rearrangement to 2-Phenylpropanal. June, 555.
Garner, Judy L.; Hansen, Lee D.; Wilson, Byron J.; Cluff, Coran L.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.
Gaul, David A.; Gallaher, Thomas N.; Schreiner, Serge. The Esterification of Trifluoroacetic Acid: A Variable Temperature NMR Kinetics Study. May, 465.
Gerothanassis, I. P.; Kalodimos, C. G. NMR Shielding and the Periodic Table. August, 801.
Gesser, H. D. The Bobbing (Drinking) Bird. April, 355.
Gil, Adrián F.; Torres, Luz María; Galicia, Laura; González, Ignacio. Understanding the Difference between Inner- and Outer-Sphere Mechanisms: An Electrochemical Experiment. August, 808.
Gilbert, George; Moore, John W.; Jacobsen, Jerrold J.; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 1: Electron Configurations from Experiment. (FORUM) July, 617.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 2: Bonding and Molecular Geometry without Orbitals-The Electron Domain Model. (FORUM) July, 622.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 3: Ionization Energies, Electronegativity, Polar Bonds and Partial Charges. (FORUM) July, 627.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 4: An Approach to Reaction Thermodynamics through Enthalpies, Entropies, and Free Energies of Atomization. (FORUM) July, 631.
Gilmer, T. Carter; Williams, Matthew. Polymer Mechanical Properties via a New Laboratory Tensile Tester . November, 1062.
Ginebreda, A. Entropy and Waste Recovery: Between Thermodynamics and Economy. August, 708.
Girard, Suzanne; Berry, David E.; McAuley, Alexander. The Synthesis and Reactions of Nickel(III) Stabilized by a Nitrogen-Donor Macrocycle. June, 551.
Gish, Thaddeus J.; Nolan, William T. The Joys of Liquid Nitrogen. (CK) July, 651.
Glass, Samuel V.; Muyskens, Mark A.; Wietsma, Thomas W.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.
Glasser, Lesile; Bradley, John D.; Brink, George; van Zyl, Pam. CAI for Chemistry. (JCE: Software) April, 323.
Goh, N. K.; Subramaniam, R.; Chia, L. S. On the Masses of the Fundamental Particles in the Bound State. July, 663.
Goldstein, Elisheva; Lehman, Jeffrey J. The Potential Energy Surface of ClF_3. November, 1096.
Gombatz, Constance; Wigman, Larry S.; Hart, Elizabeth E. IR Spectroscopy Using Disposable Polyethylene Cards: A Replacement for KBr Pellets and Mulls. July, 677.
González, A. Gustavo; Bello, M. A. Determination of Phosphate in Cola Beverages Using Nonsuppressed Ion Chromatography: An Experiment Introducing Ion Chromatography for Quantitative Analysis . December, 1174.
González, Ignacio; Torres, Luz María; Gil, Adrián F.; Galicia, Laura. Understanding the Difference between Inner- and Outer-Sphere Mechanisms: An Electrochemical Experiment. August, 808.
González-Romero, Elisa; Bravo-Díaz, Carlos. Showing Emulsion Properties with Common Dairy Foods. September, 844.
Goodrich, James; Durham, Bill. Interfacing "8088" Computers in the Chemistry Laboratory. (CBB) June, A131.
Gorin, George. Mendeleev and Moseley: The Principal Discoverers of the Periodic Law. June, 490.
Gostowski, Rudy. Teaching Analytical Instrument Design with LabVIEW. December, 1103.
Gounili, Giv; Guisto-Norkus, Rebecca; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.
Graham, Donald M. A 3-D Diagram of the Relationships among Atomic Orbitals. March, 210.
Graham, Donald M. Significant Figures in Graph Interpretation. March, 211.
Gray, Terry M.; Muyskens, Mark A.; Glass, Samuel V.; Wietsma, Thomas W. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.
Grayson, Martin. Cafe Monologue: A Tribute to Linus Carl Pauling (1901–1994). (SYM) January, 3.
Green, David B.; Rechtsteiner, Gregory; Honodel, Amy. Determination of the Thermodynamic Solubility Product, K_{sp}°, of PbI_2 Assuming Nonideal Behavior: An Analytical Chemistry Experiment. August, 789.
Greenberg, Fred H. Microscale Preparation of Difluorenylidene and *trans*-2,3-Dibenzoylspiro[cyclopropane-1-9′-fluorene]. (ML) November, 1043.
Greenblatt, M.; Teweldemedhin, Z. S.; Fuller, R. L. Magnetic Susceptibility Measurements of Solid Manganese Compounds with Evan's Balance. September, 906.
Greenbowe, Thomas J.; Sanger, Michael J. Provocative Opinion: Science-Technology-Society (STS) and ChemCom Courses Versus College Chemistry Courses: Is There a Mismatch? (PO) June, 532.
Grether, Susan C.; Bowlus, R. David. A Rapid PCR Lab Exercise. (LTE) May, 477.
Gross, Jr., Ray A. An Analysis of Ozonolysis for Classroom Instruction. November, 1019.
Grossman, William E. L. QUNLAB: A Program for the Quantitative Analysis Laboratory. (CS #187) July, 611.
Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.
Gulden, Warren. Using Physics Principles in the Teaching of Chemistry. (VIEW) August, 771.
Guzmán, Miguel; Ortega, Pedro; Vera, Leonel. A Computer Calculation Method in Chemical Kinetics. (CS #190) October, 921.
Guzman, Miguel E.; Ortega, Pedro A.; Vera, Leonel. Useful Spreadsheet for Updating Multistep Organic Synthesis. (CS #188) August, 726.

H

Hagen, Karl S.; Childs, Scott L. The Inorganic Illustrator: A 3-D Graphical Supplement for Inorganic and Bioinorganic Chemistry Courses Distributed on CD-ROM. (NSF) October, 917.
Haglund, Bert O.; Wurster, Dale Eric; Sundelöf, Lars-Olof; Upadrashta, Sathyanarayana M. Effect of SDS Micelles on Rhodamine-B Diffusion in Hydrogels. September, 899.
Hair, Sally R. An Introductory Dye Laser Experiment. (MODLAB) January, A7.
Hall, Lindsey H.; Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Sees, Jennifer A. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.
Hall, Michael R.; Battino, Rubin. Making an Inexpensive Tesla Coil from a Car Coil. August, 817.
Hall, Mona L.; Wolfson, Adele J.; Branham, Thomas R. An Integrated Biochemistry Laboratory, Including Molecular Modeling. November, 1026.
Halpern, Arthur M.; Ramachandran, B. R. Chemical Kinetics in Real Time: Using the Differential Rate Law and Discovering the Reaction Orders. July, 686.
Halpern, Arthur M.; Ramachandran, B. R.; Allen, John M. Air–Water Partitioning of Environmentally Important Organic Compounds: An Environmental Chemistry or Integrated Laboratory Experiment. November, 1058.
Hamilton, Jay R.; White, Jeffrey S.; Nakhleh, Mary B. Development of a Low-Cost Four-Color LED Photometer. November, 1052.
Hamlin, Daniel; Mosher, Michael D., Verner, Erik J.; Oliver, Bradford J.; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.
Hampp, Andreas. The Extraction of Caffeine from Tea: A Modification of the Procedure of Murray and Hansen. December, 1172.
Hancock, Robert D.; Martell, Arthur E. Hard and Soft Acid–Base Behavior in Aqueous Solution. July, 654.
Hanna, Samir B.; Sotiriou-Leventis, Chariklia; Leventis, Nicholas. Relative Stabilities and Reactivities of Isolated versus Conjugated Alkenes: Reconciliation via a Molecular Orbital Approach. April, 295.
Hansen, John C. The Iodide-Catalyzed Decomposition of Hydrogen Peroxide: A Simple Computer-Interfaced Kinetics Experiment for General Chemistry. (CS #188) August, 728.
Hansen, John C. Schrödinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation. (JCE: Software) June, 523.
Hansen, John C. Schröedinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation. (JCE: Software) October, 924.

Hansen, Kristen J.; Kegley, Susan E.; Cunningham, Kevin L. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.

Hansen, Lee D.; Garner, Judy L.; Wilson, Byron J.; Cluff, Coran L.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.

Harden, T. J.; Helliwell, S. Bacterial Toxicity Assessment Using Resazurin Reduction Kinetics: An Undergraduate Toxicity Experiment for the Chemistry-Biology Major. April, 368.

Harpp, David N.; Horgan, James J.; Jennings, James S. Crime in the Classroom: Part II. An Update. April, 349.

Harris, Mary. A Simulated Growth Hormone Analysis. (F&R) August, 735.

Harrison, James F.; Nocera, Daniel G.; Reed, Dorothy A.; Roberts, Charles H. Enhanced Performance in Chemistry by Minorities at the University Level: A Comprehensive Program. December, 1131.

Harrowven, David C.; Dennison, Shelagh T. Cascade Sequences in Organic Synthesis: A Lesson from Nature? August, 697.

Hart, David M. Redox Challenges. (LTE) October, A226.

Hart, Elizabeth E.; Wigman, Larry S.; Gombatz, Constance. IR Spectroscopy Using Disposable Polyethylene Cards: A Replacement for KBr Pellets and Mulls. July, 677.

Harvey, T. G. Acyclic Saturated Ketones. (LTE) December, A295.

Harwood, W. S. The One-Minute Paper: A Communication Tool for Large Lecture Classes. March, 229.

Hauck, Christian. An Excel 4.0 Add-in Function To Calculate Molecular Mass. (CS #185) May, 433.

Hauser, Peter C.; Cates, Norman E. An Inexpensive Detector for Absorbance Measurements in Flow-Injection Analysis. February, 191.

Hawcroft, David M. The Synthesis of Proteins—A Simple Experiment To Show the Procedures and Problems of Using Radioisotopes in Biochemical Studies. November, 1030.

Hawkes, Stephen J. Strategic Consequences from Errors in Raoult's Law Paper. January, 41.

Hawkes, Stephen J. Salts are Mostly *NOT* Ionized. May, 421.

Hawkes, Stephen J. All Positive Ions Give Acid Solutions in Water. June, 516.

Hayes II, Jerry W.; Buccigross, Jeanne M.; Metz, Christa S. Isolation and Purification of Calmodulin from Bovine Brain: A Biochemistry Experiment. March, 273.

Hayes II, Jerry W.; Taylor, Cynthia J.; Hotz, Richard P. Novel Preparation of a Tetraaza Macrocycle: An Advanced Inorganic Chemistry Laboratory. October, 991.

Hayes, Jerry W.; Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.

Hazra, N. K.; Mal, D. Micropath Distillation Apparatus. (ML) May, A103.

Helliwell, S.; Harden, T. J. Bacterial Toxicity Assessment Using Resazurin Reduction Kinetics: An Undergraduate Toxicity Experiment for the Chemistry-Biology Major. April, 368.

Helser, Terry L. A Polymer "Pollution Solution" Classroom. September, 843.

Henderleiter, Julie A.; Hyslop, Richard M. The Analysis of Riboflavin in Urine Using Fluorescence. June, 563.

Henderson, Giles; Probst, Donald A. Zinc Electrodes and the Thermodynamics of a Galvanic Cell. October, 962.

Henderson, John W.; Krieger, Albert G. Notes on Vapor Pressure Equilibria Measurements. November, 1039.

Hermann, Christine K. F. First Day in Organic Lab. September, 852.

Hernandez, Sandra A.; Rodriguez, Nora M.; Quinzani, Oscar V. An Easily Constructed and Versatile Molecular Model. August, 748.

Hernlem, Bradley J. A Versatile and Economical Automated Titration Apparatus. (CS #189) September, 878.

Herrera, Antonio; Almy, John; Martín, Nazario; Seoane, Carlos; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro[6,6]C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.

Hey, Michael J.; Booth, Harold. DNA before Watson & Crick—The Pioneering Studies of J. M. Gulland and D. O. Jordan at Nottingham. October, 928.

Hildebrand, Achim; Hilgers, Uwe; Blume, Rüdiger; Wiechoczek, Dagmar. Playing with the Soccer Ball—an Experimental Introduction to Fullerene Chemistry. November, 1066.

Hilgers, Uwe; Hildebrand, Achim; Blume, Rüdiger; Wiechoczek, Dagmar. Playing with the Soccer Ball—an Experimental Introduction to Fullerene Chemistry. November, 1066.

Hill, John W. Musk Oxen and Micelles. (AA) September, 847.

Hill, John W. Tape and Tetrahedra. June, 531.

Hindmarsh, Kathryn; House, Donald A. An Easily Demonstrated Zero-Order Reaction in Solution. June, 585.

Hixon, Susan H.; Sears, Jr., Curtis T. Systemic Changes in the Undergraduate Chemistry Curriculum Program Award and Course and Curriculum Development Program Awards. (NSF) June, 525.

Hixson, Susan H.; Sears, Jr., Curtis T. Projects supported by the NSF Division of Undergraduate Education. (NSF) March, 249.

Hoesing, Aurietha; Kelter, Paul B.; Jacobitz, Kathleen; Kean, Elizabeth. A Chemistry Course for Elementary Education Majors: What is Possible When the Chemistry and Education Departments See Eye to Eye. (CK) October, 933.

Hoffmann, Roald. Teach To Search: ACS 1996 Pimentel Award. September, A202.

Hofstadler, Steven A.; Bakhtiar, Ray; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part I. Instrumentation and Spectral Interpretation (CI). April, A82.

Hofstadler, Steven A.; Bakhtiar, Ray; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.

Hokmabadi, Mohammad; Shaw, Roosevelt. Raman Spectroscopic Determination of Heats of Vaporization of Pure Liquids. May, 474.

Holbrook, Jill; Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.

Holden, Michael S.; Crouch, R. David; Samet, Cindy. CAChe Molecular Modeling: A Visualization Tool Early in the Undergraduate Chemistry Curriculum. (NSF) October, 916.

Holden, Michael S.; Bedell, Brooke L.; Crouch, R. David; Martinson, Heidi E. A Glycosidation Reaction Employing Montmorilionite K-10 as Catalyst. (ML) November, 1041.

Holland, Jack F.; Dharmasiri, Kuruppu A. N.; Davenport, Michael; Regentin, Curtis M.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.

Hollis Jr., W. Gary. *Jurassic Park* as a Teaching Tool in the Chemistry Classroom. January, 61.

Holmes, Colette O.; Warden, Joseph T. CIStudio: A Worldwide Web-Based, Interactive Chemical Information Course. (CII) April, 325.

Holmes Jr., L. H. Textbook Forum: The Solubility of Gases in Liquids. (TF) February, 143.

Holtz, Kathleen M.; Elder, John W. Microwave Microscale Organic Experiments. (ML) May, A104.

Hönig, Helmut. Four Programs for Windows: Abstract of Volume 4D, Number 2: HIPPO-CNMRS: Highly Improved Prediction Program of Carbon Nuclear Magnetic Resonance Shifts. (JCE: Software) November, 1078.

Honodel, Amy; Green, David B.; Rechtsteiner, Gregory. Determination of the Thermodynamic Solubility Product, $K_{sp}°$, of PbI_2 Assuming Nonideal Behavior: An Analytical Chemistry Experiment. August, 789.

Hop, Cornelius E. C. A.; Bakhtiar, Ray. Electrospray Ionization Mass Spectrometry: Part III: Applications in Inorganic Chemistry and Synthetic Polymer Chemistry. (TCI) August, A162.

Horgan, James J.; Harpp, David N.; Jennings, James S. Crime in the Classroom: Part II. An Update. April, 349.

Hornack, Frederick M. Thermodynamics of Air: Reinterpreting the Method of Clement and Desormes. October, 965.

Horner, David A.; DeGraff, Benjamin A. Luminescence Decay and Flash Photolysis Experiments Using an Inexpensive, Laser-Based Apparatus. March, 279.

Horwitz, E. Philip; Dietz, Mark L. An Improved Method for the Separation of Lead-210 from Ra-DEF for Radioactive Equilbrium Experiments: Microscale Liquid-Liquid Extraction Using a Polymer-Supported Crown Ether. February, 182.

Hotz, Richard P.; Hayes II, Jerry W.; Taylor, Cynthia J. Novel Preparation of a Tetraaza Macrocycle: An Advanced Inorganic Chemistry Laboratory. October, 991.

House, Donald A.; Hindmarsh, Kathryn. An Easily Demonstrated Zero-Order Reaction in Solution. June, 585.

Hubball, John A.; Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.

Hudhomme, P.; Poiré, C.; Rabiller, C.; Chon, C. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.

Huebner, Jay S.; Vergenz, Robert A.; Smith, Terry L. Astronomy Matters for Chemistry Teachers. November, 1073.

Hunsberger, Lynn R.; Scott, Jacqueline L.; Gammon, Steven D.; Cannon, John F. Beer's Law: A Computerized Experiment. (JCE: Software) April, 324.

Hunsley, James R. Chemical Inventory and MSDS Systems. (LTE) September, A188.

Hur, Chinhyu; Solomon, Sally; Lee, Alan. Diffusion Rate on the Overhead Projector: Amines Compared to HCl. (OP) January, 81.

Hur, Chinyu; Solomon, Sally; Lee, Alan; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.

Hynson, T.; Mocellin, E.; Ravera, M.; Russell, R. A. Over 100 Years of Research on Cyclopentadienylironcarbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.

Hyslop, Richard M.; Henderleiter, Julie A. The Analysis of Riboflavin in Urine Using Fluorescence. June, 563.

I

Inzelt, György. Osmotic Pressue and Electrochemical Potential. (LTE) December, A294.

Itoh, T.; Kanda, N.; Asano, T.; Onoda, M. Preparing "Chameleon Balls" from Natural Plants: Simple Handmade pH Indicator and Teaching Material for Chemical Education. (Corrections) May, 425.

Iyere, Peter Abeta. Reduction of Viologen Bisphosphate Dihalide with Aluminum Foil. (OP) May, 455.

J

Jacobitz, Kathleen; Kelter, Paul B.; Kean, Elizabeth; Hoesing, Aurietha. A Chemistry Course for Elementary Education Majors: What is Possible When the Chemistry and Education Departments See Eye to Eye. (CK) October, 933.

Jacobsen, Erica Bode; Jacobsen, Jerrold J.; Wright, J. Monty. HIV-1 Protease: An Enzyme at Work. (JCE: Software) January, 63.

Jacobsen, Jerrold J.; Moore, John W.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.

Jacobsen, Jerrold J.; Jacobsen, Erica Bode; Wright, J. Monty. HIV-1 Protease: An Enzyme at Work. (JCE: Software) January, 63.

Jacobsen, Jerrold J.; Zimmerman, John. Quantitative Techniques in Volumetric Analysis. (JCE: Software) December, 1117.

Jakubowski, Henry V.; Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.

Jasien, Paul G. A Cheaper Laser Source for Beer's Law Experiments. (LTE) March, 286.

JCE: Online. Nonprint Resourses of the *Journal* http://jchemed.chem.wisc.edu/. (JCE: Software) May, 436.

Jegla, John D.; Pharr, Christine M.; Malmberg, Barry J.; Gammon, Steven D. PVC Photometer: Computer-Assisted Spectroscopy Experiments. (CS #183) March, 238.

Jennings, James S.; Harpp, David N.; Horgan, James J. Crime in the Classroom: Part II. An Update. April, 349.

Jensen, Torkil H. Fusion—A Potential Power Source or Not? (LTE) April, 382.

Jensen, William B. Electronegativity from Avogadro to Pauling: Part 1: Origins of the Electronegativity Concept. (SYM) January, 11.

Jetzer, Kelly Houston; Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.

Johnson, Beverly; Clausen, Thomas P.; Wood, Jim. A Mixed Aldol Condensation-Michael Addition Experiment. March, 266.

Johnson, Brian J.; Tirri, Lawrence; Manning, Bradford. Development and Evaluation of a Program of Study in Hazardous Materials Management. April, 351.

Johnson, Steven D. An Empirical Formula from Ion Exchange Chromatography and Colorimetry. December, 1179.

Johnson, Tanya; Kelter, Paul B.; Carr, James D; Castro-Acuña, Carlos Mauricio. The Chemical and Educational Appeal of the Orange Juice Clock. (TD) December, 1123.

Jones, Thomas P.; Ogren, Paul J. Laboratory Interfacing Using the LabVIEW Software Package. (CBB) December, 1115.

Judd, Carolyn Sweeney. News from On-Line. September, A195.

Judd, Carolyn Sweeney. News from On-Line. December, A304.

Juhl, Lorie. General Chemistry in Technical Education: Creating an Applied and Cooperative Experience. (COOP) January, 72.

K

Kahley, Mary Jo; Novak, Michael. A Practical Procedure for Determining Rate Constants in Consecutive First-Order Systems. April, 359.

Kalbus, G. E.; Crossno, S. K.; Kalbus, L. H. Determinations of Carbon Dioxide by Titration: New Experiments for General, Physical, and Quantitative Analysis Courses. February, 175.

Kalbus, L. H.; Crossno, S. K.; Kalbus, G. E. Determinations of Carbon Dioxide by Titration: New Experiments for General, Physical, and Quantitative Analysis Courses. February, 175.

Kalodimos, C. G.; Gerothanassis, I. P. NMR Shielding and the Periodic Table. August, 801.

Kanazawa, Hitoshi; Onami, Tetsuo. A Simple Method for Isolation of Caffeine from Black Tea Leaves: Use of a Dichloromethane-Alkaline Water Mixture as an Extractant. June, 556.

Kanda, N.; Asano, T.; Itoh, T.; Onoda, M. Preparing "Chameleon Balls" from Natural Plants: Simple Handmade pH Indicator and Teaching Material for Chemical Education. (Corrections) May, 425.

Katz, Marlene. Teaching Organic Chemistry via Student-Directed Learning: A Technique that Promotes Independence and Responsibility in the Student. May, 440.

Kauffman, George B.; Kauffman, Laurie M. An Interview with Linus Pauling. (SYM) January, 29.

Kauffman, George B.; Mayo, Isaac. Multidisciplinary Scientist—Melvin Calvin: His Life and Work. May, 412.

Kauffman, Laurie M.; Kauffman, George B. An Interview with Linus Pauling. (SYM) January, 29.

Kaufman, James A. Chemical Inventory and MSDS Systems. (LTE) September, A188.

Kean, Elizabeth; Kelter, Paul B.; Jacobitz, Kathleen; Hoesing, Aurietha. A Chemistry Course for Elementary Education Majors: What is Possible When the Chemistry and Education Departments See Eye to Eye. (CK) October, 933.

Kegley, Susan E.; Hansen, Kristen J.; Cunningham, Kevin L. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.

Kelly, Chad O.; Mosher, Michael D.; Mosher, Melvyn W. Examination of a Reaction Mechanism by Polarimetry: An Experiment for the Undergraduate Organic Chemistry Laboratory. June, 567.

Kelter, Paul B.; Jacobitz, Kathleen; Kean, Elizabeth; Hoesing, Aurietha. A Chemistry Course for Elementary Education Majors: What is Possible When the Chemistry and Education Departments See Eye to Eye. (CK) October, 933.

Kelter, Paul B.; Carr, James D.; Johnson, Tanya; Castro-Acuña, Carlos Mauricio. The Chemical and Educational Appeal of the Orange Juice Clock. (TD) December, 1123.

Kenkel, John. Committee on Chemistry in the Two-Year Colleges. October, A239.

Kenkel, John. Chemistry Education at the 2-Year Colleges—What's New? Part 2. November, A272.

Kennepohl, Dietmar. Home-Study Microlabs. October, 938.

Kerber, Robert C.; Akhtar, Mohammad J. Getting Real: A General Chemistry Laboratory Program Focusing on "Real World" Substances. (FORUM) November, 1023.

Kermis, Thomas W.; Bieron, Joseph F.; McCarthy, Paul J. A New Approach to the General Chemistry Laboratory. (FORUM) November, 1021.

Kessinger, Angela; Conklin, Jr., Alfred R. Demonstration of the Catalytic Decomposition of Hydrogen Peroxide. (TD) September, 838.

Khundkar, Lutfur R. Mass Ratio of the Deuteron and Proton from the Balmer Spectrum of Hydrogen: Variation on an Undergraduate Physical Chemistry Experiment. November, 1055.

Kiefer, Edgar F.; Takauye, Kenn M. Methylene-*bis*-amide (MBA) Derivatives for Characterization of Nitriles. February, 190.

Kildahl, Nicholas. A Simpler Approach to "Apparent" pK_a's. (LTE) June, 598.

Kildahl, Nicholas K.; Elderd, Dianne M.; Berka, Ladislav H. Experiments for Modern Introductory Chemistry: Identification of Arson Accelerants by Gas Chromatography. July, 675.

Kim, Hie-Joon. Learning Chemistry through Numbers. (TP) March, 236.

Kim, Jae Hyun. Four Programs for Windows: Abstract of Volume 4D, Number 2: Alkanes in Motion. (JCE: Software) November, 1079.

Kimbrough, Doris R.; Weaver, Gabriela C. Colorful Kinetics. (OP) March, 256.

King, R. B. The Shapes of Coordination Polyhedra. October, 993.

Kirkwood, Valda; Symington, David. Lecturer Perceptions of Student Difficulties in a First-Year Chemistry Course. April, 339.

Kirsch, Paul; Lin, Qun; Turner, Ralph. Numeric and Conceptual Understanding of General Chemistry at a Minority Institution. October, 1003.

Kjonaas, Richard A. Amyl: A Misunderstood Word. December, 1127.

Kogut, Leonard S. Using Quality Circles in General Chemistry. (FORUM) February, 146.

Kogut, Leonard S. Critical Thinking in General Chemistry. March, 218.

Kohnert, Rodger; Nibler, Joseph W.; Minarik, Philip; Fitts, William. Gas-Phase NMR Study of the DCl–HBr Isotope Exchange Reaction. January, 99.

Kolar, Patrik; Tišler, Miha. A Convenient Synthesis of the Tetrasubstituted Pyrrole: An Undergraduate Heterocyclic Laboratory Experiment. October, 986.

Kolb, Doris. Egg in the Bottle. (LTE) September, A189.

Kooser, Robert G.; Mossman, Daniel M.; Welch, Lawrence. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.

Kormali, Suphi M.; Seckin, Turgay. An-Easy-to-Build Rotational Viscometer with Digital Readout. February, 193.

Kostecka, Keith S.; Lerman, Zafra M.; Angelos, Sanford A. Use of Gas Chromatography—Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.

Koubek, Edward; Elert, Mark. A Demonstration of Crystal-Field Effects in Octahedral Complexes. (TD) October, 947.

Kovac, Jeffrey. Scientific Ethics in Chemical Education. October, 926.

Kovács-Hadady, Katalin; Fábián, István. Are They Really Sloppy? A Comparative Analysis of Student Performance in the Laboratory. May, 461.

Kowalewski, Mary S.; Schnable, Joseph G. Viewing and Printing Scientific and Math ASCII Characters on Old and New IBM Compatible Computers. (CBB) June, A130.

Krause, Josef G. Containment of Spray Reagents in TLC Spot Detection. October, 979.

Krause, Paul; Manion, Jerry. A Novel Approach to Teaching Electrochemical Principles. (TD) April, 354.

Krieger, Albert G.; Henderson, John W. Notes on Vapor Pressure Equilibria Measurements. November, 1039.

Kubicek, R. L.; O'Brien, L. C. Binding-Energy Curve for Iodine Using Laser Spectroscopy. January, 86.
Kukolich, S. G.; Vemulapalli, G. K. Why Does a Stream of Water Deflect in an Electric Field? September, 887.
Kunze, Klaus; Schallies, Michale; Schnelle, Hans-Otto. The Use of PTFE Membranes for the Construction of Semimicroscale Gas Reactors. (ML) June, A128.
Kurtz, Martha J.; Birk, James P. Using Cooperative Learning Techniques To Train New Teaching Assistants. July, 615.
Kwong, Daniel W.J.; Lee, Albert W.M.; Leung, K.M.; Chan, C.L. Symmetry Elements and Operations. (JCE: Software) October, 924.

L

Labianca, Dominick A. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 824.
Lacan, Fabrice; Nuhrich, Alain; Varache-Lembège, Martine; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.
Lagowski, J. J. Departments as Agents of Change. (Editorial) July, 599.
Lagowski, J. J. Rethinking the PhD: A New Social Contract. (Editorial) January, 1.
Lagowski, J. J. The Role of Academic Science. (Editorial) February, 103.
Lagowski, J. J. Graduate Education: The New Covenant. (Editorial) March, 197.
Lagowski, J. J. A Decade of Project 2061. (Editorial) April, 287.
Lagowski, J. J. The Education Summit; A Different Signal. (Editorial) May, 383.
Lagowski, J. J. Re-Harnessing the Genie. (Editorial) June, 479.
Lagowski, J. J. A Valedictory: "No man is an Iland, intire of it selfe.". (Editorial) August, 695.
Laing, Michael. Bring Back Equivalent Weight—*If You Want the Kids To "Think"!* November, 1007.
Laitinen, R. A.; Crumpton, D. M.; Smieja, J.; Cleary, D. A. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.
Lamparczyk, Henryk; Zarzycki, Pawel K. A Simple Experiment Demonstrating the Temperature Effect in Supramolecular Chemistry. (TD) May, 459.
Langler, Richard Francis. A Conceptually Simple Approach to the Analysis of Aromaticity in Pericyclic Transition States. September, 899.
Lark, B. S. A Paper Vernier Scale for Various Laboratory Equipment. February, 177.
Lawrence, Barbara A.; Zanella, Andrew W. A Simple Method for Producing A Mixture of Gaseous HCl and DCl for Measuring Their Vibrational-Rotational Spectra. April, 367.
Leary, James J.; Schmidt, Rebecca L. Quadrupole Mass Spectrometers: An Intuitive Look at the Math. December, 1142.
Leber, Phyllis A.; Szczerbicki, Sandra K. Theme-Based Bidisciplinary Chemistry Laboratory Modules. (NSF) December, 1130.
Lederer, M.; Leipzig-Pagani, E. Thin-Layer Chromatography Experiments That Illustrate General Problems in Chromatography. October, 974.
Lee, Alan; Solomon, Sally; Hur, Chinhyu. Diffusion Rate on the Overhead Projector: Amines Compared to HCl. (OP) January, 81.
Lee, Alan; Solomon, Sally; Hur, Chinyu; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.
Lee, Albert W. M.; Zengpei, Zhong. Staining TLC Plate Using a Cotton Ball. April, 358.
Lee, Albert W. M. Separatory Flask and Beaker. June, 557.
Lee, Albert W.M.; Leung, K.M.; Kwong, Daniel W.J.; Chan, C.L. Symmetry Elements and Operations. (JCE: Software) October, 924.
Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. February, 184.
Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. (Corrections) April, 382.
Leenson, I. A. Additional Kinetic Information. (LTE) August, 826.
Lehman, Jeffrey J.; Goldstein, Elisheva. The Potential Energy Surface of ClF_3. November, 1096.
Lehman, Thomas A.; Pauls, Steven W. A Cheaper Laser Source for Beer's Law Experiments. (LTE) March, 286.
Lei, Lixu; Yao, Xuebin; Xin, Xinquan. Classroom Demonstration of Solid State Reaction at Room Temperature. (TD) November, 1018.
Leipzig-Pagani, E.; Lederer, M. Thin-Layer Chromatography Experiments That Illustrate General Problems in Chromatography. October, 974.
Lerman, Zafra M.; Kostecka, Keith S.; Angelos, Sanford A. Use of Gas Chromatography—Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.
LeRoux, Xavier; Ottewill, Gerry A.; Walsh, Frank C. The Comparative Performance of Batteries: The Lead–Acid and the Aluminum–Air Cells. August, 811.
Lesko, Melanie J. Stereoisomer Bubbles. May, 429.
Letkeman, Peter. Computer-Modelling of Metal Speciation in Human Blood Serum. (CS #182) February, 165.
Leung, K.M.; Lee, Albert W.M.; Kwong, Daniel W.J.; Chan, C.L. . Symmetry Elements and Operations. (JCE: Software) October, 924.
Leventis, Nicholas; Sotiriou-Leventis, Chariklia; Hanna, Samir B. Relative Stabilities and Reactivities of Isolated versus Conjugated Alkenes: Reconciliation via a Molecular Orbital Approach. April, 295.
Levine, Samuel G. Dip Reagents for Visualization in TLC . (ML) January, A4.
Levine, Samuel G. TLC Developing Chamber for Screening Column Chromatography Fractions. January, 77.
Li, Jin; Dai, Le-Sui; You, Li-Shu. A Modified Demonstration of the Activation Energy Concept. (TD) October, 948.
Liehr, Sebastian; Taber, Douglass F.; Wang, Yanong. Mini-scale Oxidation/Reduction in Organic Laboratory Course: 4-Nitrobenzaldehyde/ 4-Nitrobenzyl Alcohol. (ML) November, 1042.
Lieu, Van T. A Simple Experiment for Demonstration of Phase Diagram of Carbon Dioxide. (TD) September, 837.
Lin, Qun; Kirsch, Paul; Turner, Ralph. Numeric and Conceptual Understanding of General Chemistry at a Minority Institution. October, 1003.
Lind, Gerhard. Inorganic Nomenclature. (LTE) August, 826.
Lipkowitz, Kenny B.; Pearl, Greg M.; Robertson, Daniel H.; Schultz, Franklin A. Computational Chemistry for the Inorganic Curriculum. February, 105.
Lisensky, G.; Viswanathan, R.; Dobson, D. A. Off-the-Shelf Portable Data Acquisition: Interfacing a Serial-Port-Equipped Multimeter. (CBB) February, A41.
Lisensky, George; Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.
Lisensky, George C.; Ellis, Arthur B. Journal of Chemical Education: Software: Abstract for Special Issue Number 12: The Solid State Resources CD. (JCE: Software) July, 667.
Lisensky, George C.; Winder, Edmund J.; Ellis, Arthur B. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.
Lisensky, George C.; Patel, Manish N.; Reich, Megan L. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.
Logan, S. R. Chemical Equilibrium. (LTE) November, A261.
Loiselle, Steven; Branca, Mario. A Manageable Measurement Method for Sodium. September, 857.
Lord, Kaye; Craney, Chris; Mazzeo, April. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.
Losada, José; García-Armada, Pilar; de Vicente-Pérez, Santiago. Cation Analysis Scheme by Differential Pulse Polarography. June, 544.
Lötz, A. Multichannel DTA Apparatus for the Measurement of Phase Diagrams. February, 195.
Lowrey, Kirsten A.; Nakhleh, Mary B.; Mitchell, Richard C. Narrowing the Gap between Concepts and Algorithms in Freshman Chemistry. August, 758.
Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Chromatographic Separation of Phosphoric Acid from Cola Beverages. December, 1172.
Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Determination of Phosphorus in Cola Drinks. December, 1173.
Luckenbaugh, Raymond W. Undergraduate Organic Chemistry Laboratory Safety. November, 1083.
Ludwig, Oliver G. On Balancing "Redox Challenges". June, 507.
Lunelli, B. Phase Diagrams. (LTE) October, A228.
Lunelli, Bruno. Fusion—A Potential Power Source or Not? (LTE) April, 382.
Lyons, Edward J.; Bettis, Cliff; Brooks, David W. Illustrating Fourier Transforms. September, 839.

M

Ma, Ngai Ling. Quantum Analogies on Campus. (AA) November, 1016.
Mabrouk, Patricia Ann. Planning a Day at PITTCON: An Introduction to Current Trends in Analytical Research for Undergraduates. (TCI) February, A23.
Mabrouk, Patricia Ann. The Modern Student Laboratory: Purification of Horse Heart Cyt c by Ion Exchange. (MODLAB) July, A149.
Maccà, Carlo; Wang, Joseph. Use of Blood-Glucose Test Strips for Introducing Enzyme Electrodes and Modern Biosensors. August, 797.
Madlung, Andreas. The Chemistry behind the Air Bag: High Tech in First-Year Chemistry. (PROD) April, 347.
Madueño-Lorguillo, Silvia; Lozano-Calero, Diego; Martín-Palomeque, Pilar. Chromatographic Separation of Phosphoric Acid from Cola Beverages. December, 1172.
Madueño-Lorguillo, Silvia; Lozano-Calero, Diego; Martín-Palomeque, Pilar. Determination of Phosphorus in Cola Drinks. December, 1173.
Magner, John T.; Selke, Matthias; Russell, Arlene A.; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.
Maier, Mary L. Polymer Science Pilot Program. July, 643.

Mainwaring, J.; Adam, D. J.; Quigley, Michael N. Soxhlet Extraction of Caffeine from Beverage Plants. December, 1171.

Mal, D.; Hazra, N. K. Micropath Distillation Apparatus. (ML) May, A103.

Malerich, Charles J. A Microscale Conductance Assay of Total Electrolyte Concentration in Animal Tissue. (ML) June, A127.

Malmberg, Barry J.; Pharr, Christine M.; Jegla, John D.; Gammon, Steven D. PVC Photometer: Computer-Assisted Spectroscopy Experimenta. (CS #183) March, 238.

Manfredi, K. P.; McGrew, L. A. Preparation and Properties of a Stable Organic Cation: A Microscale Experiment for Organic Chemistry. (ML) June, A124.

Manion, Jerry; Krause, Paul. A Novel Approach to Teaching Electrochemical Principles. (TD) April, 354.

Manning, Bradford; Tirri, Lawrence: Johnson, Brian J. Development and Evaluation of a Program of Study in Hazardous Materials Management. April, 351.

Manning, Thomas J. Approximating the Electrostatic Contribution to ΔS for Aqueous Phase Lanthanide–Aminocarboxylate Complexation. July, 661.

Manzanares I., Carlos; Mina-Camilde, Nairmen; Caballero, Julio F. Molecular Constants of Carbon Monoxide at $v = 0$, 1, 2, and 3: A Vibrational Spectroscopy Experiment in Physical Chemistry. August, 804.

March, Jerry. Helping Dyslexic Students. (LTE) September, A189.

Marín, José M. Provocative Opinion: The Sense of University Research: The Abyss between Science and Technology. (PO) March, 217.

Markow, Peter G. Determining the Lead Content of Paint Chips: An Introduction to AAS. February, 178.

Markwell, John; Curtright, Robert; Rynearson, James A. Anthocyanins: Model Compounds for Learning about More than pH. April, 306.

Maroto, Beatriz; Camusso, Celso. Assessment of Knowledge Acquired in an Organic Chemistry Course. March, 231.

Marriott, Philip J.; Carpenter, Peter D. Capillary Gas Chromatography Injection: An Exercise for Students of Instrumental Analysis. January, 96.

Marsh, Diane F.; Mink, Larry M. Microscale Synthesis and Electronic Absorption Spectroscopy of Tetraphenylporphyrin H_2(TPP) and Metalloporphyrins Zn^{II}(TPP) and Ni^{II}(TPP). (ML) December, 1188.

Martell, Arthur E.; Hancock, Robert D. Hard and Soft Acid–Base Behavior in Aqueous Solution. July, 654.

Martin, John S. SIRs: Simulations and Interactive Resources, III. (JCE: Software) August, 722.

Martín, Nazario; Almy, John; Herrera, Antonio; Seoane, Carlos; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro(6,6)C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.

Martín-Palomeque, Pilar; Lozano-Calero, Diego; Madueño-Lorguillo, Silvia. Chromatographic Separation of Phosphoric Acid from Cola Beverages. December, 1172.

Martín-Palomeque, Pilar; Lozano-Calero, Diego; Madueño-Lorguillo, Silvia. Determination of Phosphorus in Cola Drinks. December, 1173.

Martinson, Heidi E.; Bedell, Brooke L.; Crouch, R. David; Holden, Michael S. A Glycosidation Reaction Employing Montmorillonite K-10 as Catalyst. (ML) November, 1041.

Mason, P. K.; Sarquis, A. M.; Williams, J. P. Take-Home Challenges: Extending Discovery-Based Activities beyond the General Chemistry Classroom. (NSF) April, 337.

Masson, Bernard L. X-ray Powder Diffraction Simulation with a Microcomputer. (CS #190) October, 918.

Mattes, Fred; Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.

Maynard, David F.; Pravia, Katia. Why Don't Water and Oil Mix? (OP) June, 497.

Mayo, Isaac; Kauffman, George B. Multidisciplinary Scientist—Melvin Calvin: His Life and Work. May, 412.

Mazzacco, Charles J. The Effect of Solvent and Micelles on the Rate of Excited-State Deprotonation. (TD) March, 254.

Mazzeo, April; Craney, Chris; Lord, Kaye. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.

McAuley, Alexander; Berry, David E.; Girard, Suzanne. The Synthesis and Reactions of Nickel(III) Stabilized by a Nitrogen-Donor Macrocycle. June, 551.

McCarthy, Paul J.; Bieron, Joseph F.; Kermia, Thomas W. A New Approach to the General Chemistry Laboratory. (FORUM) November, 1021.

McClelland, Bruce W. An Omitted Collaborator. (LTE) June, 598.

McClure, Cynthia K.; Chenault, H. Keith. Chemoenzymatic Synthesis of an Enantiomerically Pure Lactone: A Three-Step Synthesis for Undergraduate Organic Chemistry Laboratory. May, 467.

McElroy, Lloyd J. Teaching Dilutions. (AA) August, 765.

McGinn, Clifford J. Stretch and Bend Modes. (LTE) March, 286.

McGoran, Ernest C.; Melton, Cameron; Taitch, Darren. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.

McGrew, L. A.; Manfredi, K. P. Preparation and Properties of a Stable Organic Cation: A Microscale Experiment for Organic Chemistry. (ML) June, A124.

McKelvey, Ronald D.; Osterby, Bruce R. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.

McKelvey, Ronald D.; Osterby, Bruce R. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.

McNaught, Ian J.; Moore, Rory. Winspec: A Microwave Spectroscopy Tutor. (JCE: Software) June, 523.

McNeese, Timothy J.; Ezbiansky, Karin A. Photochemical Preparation and Reactivity of *cis*-$Cr(CO)_4(CH_3CN)_2$: An Advanced Undergraduate Inorganic Laboratory Experiment. June, 548.

Meagley, Robert P.; Taber, Douglass F.; Supplee, Danielle. A Colorful Grignard Reaction: Preparation of the Triarylmethane Dyes from 4-Bromo-*N*,*N*-Dimethylaniline. March, 259.

Mellon, Edward K.; Berger, Tomás G. A Multistep Equilibria-Redox-Complexation Demonstration To Illustrate Le Châtelier's Principle. (TD) August, 783.

Melrose, Melvyn P.; Scerri, Eric R. Why the 4*s* Orbital Is Occupied before the 3*d*. June, 498.

Melton, Cameron; McGoran, Ernest C.; Taitch, Darren. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.

Menzinger, Michael; Strizhak, Peter. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. September, 868.

Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. (Corrections) November, A262.

Metz, Christa; Buccigross, Jeanne M.; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.

Metz, Christa S.; Buccigross, Jeanne M.; Hayes II, Jerry W. Isolation and Purification of Calmodulin from Bovine Brain: A Biochemistry Experiment. March, 273.

Metz, Patricia A.; Smith, Kimberly Jo. Evaluating Student Understanding of Solution Chemistry through Microscopic Representations. March, 233.

Meyer, Jeanne A. R; Nash, John J.; Nurrenbern, Susan C. Waste Treatment in the Undergraduate Laboratory: Let the Students Do It! December, 1183.

Miles, William H.; Nutaitis, Charles F.; Anderton, Christian A. Iron(III) Chloride as a Lewis Acid in the Friedel–Crafts Acylation Reaction. March, 272.

Miller, Larry L. How to Get a Research Idea and Get Someone to Pay You to Work on It. April, 332.

Millet, Pierre. Electric Potential Distribution in an Electrochemical Cell. October, 956.

Mills, Nancy S. Complete Assignment of Proton Chemical Shifts in Terpenes: An Experiment Combining 2D NMR Spectroscopy with Molecular Modeling. December, 1190.

Mina-Camilde, Nairmen; Manzanares I., Carlos; Caballero, Julio F. Molecular Constants of Carbon Monoxide at $v = 0$, 1, 2, and 3: A Vibrational Spectroscopy Experiment in Physical Chemistry. August, 804.

Minarik, Philip; Nibler, Joseph W.; Fitts, William; Kohnert, Rodger. Gas-Phase NMR Study of the DCl–HBr Isotope Exchange Reaction. January, 99.

Minarik, Phillip R.; Williams, Darren L.; Nibler, Joseph W. PC Calculations Using Gaussian for Windows. (CS #187) July, 608.

Mink, Larry M.; Marsh, Diane F. Microscale Synthesis and Electronic Absorption Spectroscopy of Tetraphenylporphyrin H_2(TPP) and Metalloporphyrins Zn^{II}(TPP) and Ni^{II}(TPP). (ML) December, 1188.

Mitchell, Richard C.; Nakhleh, Mary B.; Lowrey, Kirsten A. Narrowing the Gap between Concepts and Algorithms in Freshman Chemistry. August, 758.

Mitchell, Richard S. Iodine Clock Reaction. (TD) August, 783.

Mitschele, Jonathan. Beer–Lambert Law. (LTE) November, A260.

Mocellin, E.; Ravera, M.; Russell, R. A.; Hynson, T. Over 100 Years of Research on Cyclopentadienyliron carbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.

Mocerino, Mauro; Stick, Robert V. Sodium Chloride Revisited. (TD) June, 539.

Mocerino, Mauro; Stick, Robert V. Azo Dyes. (TD) June, 540.

Moe, Owen A.; Bonser, Amy M. Labeling Histidines in Cytochrome c: An Integrated Laboratory Project. August, 794.

Moeur, Harriet P.; Pinnell, Robert P. Use of the Disposable IR Card in the Organic Chemistry Laboratory. April, 371.

Moir, Neil; Morgan, Chad. Rapid Microscale Isolation and Purification of Yeast Alcohol Dehydrogenase Using Cibacron Blue Affinity Chromatography. (ML) November, 1040.

Moody, Anne E.; Delaware, Dana L.; Freeman, R. Griff; Van Galen, Dean. The Freshman Chemistry Seminar. (FORUM) February, 144.

Moog, Richard S.; Gillespie, Ronald J.; Spencer, James N. Demystifying Introductory Chemistry Part 1: Electron Configurations from Experiment. (FORUM) July, 617.

Moog, Richard S.; Gillespie, Ronald J.; Spencer, James N. Demystifying Introductory Chemistry Part 2: Bonding and Molecular Geometry without Orbitals-The Electron Domain Model. (FORUM) July, 622.

Moog, Richard S.; Spencer, James N.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 3: Ionization Energies, Electronegativity, Polar Bonds and Partial Charges. (FORUM) July, 627.

Moog, Richard S.; Spencer, James N.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 4: An Approach to Reaction Thermodynamics through Enthalpies, Entropies, and Free Energies of Atomization. (FORUM) July, 631.

Moore, Elizabeth A. What is Chemical Education Today? September, A194.

Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.

Moore, John W. Coalescing the Chemical Education Community. (Editorial) September, A185.

Moore, John W. It's a Matter of Money. Or Is It? (Editorial) November, A257.

Moore, John W. They Didn't Teach Me Anything, But I Learned a Lot. (Editorial) December, A291

Moore, John W. Why Don't You Write It Up for the *Journal*? (Editorial) October, A223.

Moore, Rory; McNaught, Ian J. Winspec: A Microwave Spectroscopy Tutor. (JCE: Software) June, 523.

Morgan, Chad; Moir, Neil. Rapid Microscale Isolation and Purification of Yeast Alcohol Dehydrogenase Using Cibacron Blue Affinity Chromatography. (ML) November, 1040.

Morris, Kevin; Erickson, Luther E. A Physical Chemistry Lab Project: The Effect of Composition on Several Physical Properties of Binary Mixtures of Common Liquids. October, 971.

Morris, Kevin F.; Erickson, Luther E. NMR Determination of Internal Rotation Rates and Rotational Energy Barriers: A Physical Chemistry Lab Project. May, 471.

Morris, Robert J.; Sproch, Norman; Begin, Kelly J. The Modern Student Laboratory: Chromatography: An LC/Particle Beam/MS Experiment for Undergraduates. (MODLAB) February, A33.

Mosbo, J. A.; Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.

Moseley, Charles G. An Improved Microsoft Excel Grade Book. January, 62.

Mosher, Melvyn W.; Mosher, Michael D.; Kelly, Chad O. Examination of a Reaction Mechanism by Polarimetry: An Experiment for the Undergraduate Organic Chemistry Laboratory. June, 567.

Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.

Mosher, Michael D.; Kelly, Chad O.; Mosher, Melvyn W. Examination of a Reaction Mechanism by Polarimetry: An Experiment for the Undergraduate Organic Chemistry Laboratory. June, 567.

Mosher, Michael D. A Chemical Genealogy Assignment. December, 1119.

Mossman, Daniel M.; Kooser, Robert G.; Welch, Lawrence. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.

Motyka, Andrea L. An Introduction to Rheology with an Emphasis on Application to Dispersions. April, 374.

Mounts, Richard D. Chemistry on the Web. (CS #181) January, 68.

Moyano, Albert; Paniagua, Juan Carlos. On the Way of Introducing Some Basic NMR Aspects: From the Classical and Naive Quantum Models to the Density-Operator Approach. April, 310.

Muenter, John S. The Helium–Neon Laser-Induced Fluorescence Spectrum of Molecular Iodine: An Undergraduate Laboratory Experiment. June, 576.

Muenter, John S.; Deutsch, John L. The Nitrogen-Laser Excited Luminescence of Pyrene: A Student Laboratory Study of Excimer Dynamics. June, 580.

Mukesh, D. Applications of Neural Computing for Process Chemists: I. Introduction to Neural Network. (CS #185) May, 431.

Mukesh, D. Applications of Neural Computing for Process Chemists: II. Examples. (CS #186) June, 518.

Mullen, Ken I.; Soran, Patrick D.; Neal, Everett E.; Smith, Barbara. On-Line Surfactant Monitoring by Foam Generation. August, 819.

Mullin, Jerome; Courtney, Pamela. Using Inexpensive "Find & Circle" Word Search Software in the Study of Chemical Nomenclature. (CBB) June, A130.

Muyskens, Mark A.; Glass, Samuel V.; Wietsma, Thomas W.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.

N

Nagi, Mehnaz; Anwar, Jamil; Nagra, Saeed Ahmad. Thin-Layer Chromatography: Four Simple Activities for Undergraduate Students. October, 977.

Nagra, Saeed Ahmad; Anwar, Jamil; Nagi, Mehnaz. Thin-Layer Chromatography: Four Simple Activities for Undergraduate Students. October, 977.

Nakhleh, Mary B.; Hamilton, Jay R.; White, Jeffrey S. Development of a Low-Cost Four-Color LED Photometer. November, 1052.

Nakhleh, Mary B.; Lowrey, Kirsten A.; Mitchell, Richard C. Narrowing the Gap between Concepts and Algorithms in Freshman Chemistry. August, 758.

Narayanan, Radha; Narayanan, V. Anantha. Low-Cost Lateral Displacement Refractometer for Liquids: A Take-Home Student Experiment. August, 784.

Narayanan, V. Anantha; Narayanan, Radha. Low-Cost Lateral Displacement Refractometer for Liquids: A Take-Home Student Experiment. August, 784.

Nash, John J.; Meyer, Jeanne A. R; Nurrenbern, Susan C. Waste Treatment in the Undergraduate Laboratory: Let the Students Do It! December, 1183.

Natale, Nicholas R.; Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.

Neal, Everett E.; Soran, Patrick D.; Smith, Barbara; Mullen, Ken I. On-Line Surfactant Monitoring by Foam Generation. August, 819.

Nestor, Lisa P.; Ricci, Robert W. Beer–Lambert Law. (LTE) November, A261.

Nibler, Joseph W.; Minarik, Philip; Fitts, William; Kohnert, Rodger. Gas-Phase NMR Study of the DCl–HBr Isotope Exchange Reaction. January, 99.

Nibler, Joseph W.; Williams, Darren L.; Minarik, Phillip R. PC Calculations Using Gaussian for Windows. (CS #187) July, 608.

Nóbrega , Joaquim A.; Rocha, Fábio R. P. Effects of Solution Physical Properties on Copper and Chromium Signals in Flame Atomic Absorption Spectrometry. October, 982.

Nocera, Daniel G.; Harrison, James F.; Reed, Dorothy A.; Roberts, Charles H. Enhanced Performance in Chemistry by Minorities at the University Level: A Comprehensive Program. December, 1131.

Nolan, William T.; Gish, Thaddeus J. The Joys of Liquid Nitrogen. (CK) July, 651.

Nordmeyer, Francis R.; Hansen, Lee D.; Garner, Judy L.; Wilson, Byron J.; Cluff, Coran L. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.

Novak, Igor. Chemical Enumeration with Mathematica. February, 120.

Novak, Igor. Chemical Enumeration with Mathematica. (Corrections) August, 737.

Novak, Michael; Kahley, Mary Jo. A Practical Procedure for Determining Rate Constants in Consecutive First-Order Systems. April, 359.

Novak, Michael; Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.

Nowick, James S.; Waldman, Amy Sue; Schechinger, Linda. A Coordinated Chemistry Outreach Program for Thousands of High School Students. August, 762.

Noyes, Richard M. A Controversy about the Gibbs Function: Applications of the Gibbs Function to Chemical Systems and Subsystems. (SYM) May, 404.

Nuhrich, Alain; Varache-Lembège, Martine; Lacan, Fabrice; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.

Núñez, Javier; Baonza, Valentín García; Cáceres, Mercedes. Mechanical Coefficients of Liquids by a Differential Expansion Method: A Physical Chemistry Experiment. July, 690.

Nurrenbern, Susan C.; Nash, John J.; Meyer, Jeanne A. R. Waste Treatment in the Undergraduate Laboratory: Let the Students Do It! December, 1183.

Nutaitis, Charles F.; Miles, William H.; Anderton, Christian A. Iron(III) Chloride as a Lewis Acid in the Friedel–Crafts Acylation Reaction. March, 272.

O

O'Brien, L. C.; Kubicek, R. L. Binding-Energy Curve for Iodine Using Laser Spectroscopy. January, 86.

Ochiai, Ei-Ichiro. CO, N_2, NO, and O_2—Their Bioinorganic Chemistry: Principles and Applications in Bioinorganic Chemistry-VIII. February, 130.

Ochs, Raymond S. Thermodynamics and Spontaneity. October, 952.

Ogren, Paul J.; Thomas P. Jones. Laboratory Interfacing Using the LabVIEW Software Package. (CBB) December, 1115.

Ogude, N. A.; Bradley, J. D. Electrode Processes and Aspects Relating to Cell EMF, Current, and Cell Components in Operating Electrochemical Cells: Precollege and College Student Interpretation. December, 1145.

Okumura, Mitchio; Beauchamp, Jesse L.; Dickert, Jeffrey M.; Essy, Blair R.; Claypool, Christopher L. Undergraduate Laboratory for Surface Science. (NSF) February, 142.

Olander, Claire R. An n-Bottle Lab Exercise with No Hazardous Waste. September, 849.

Oliver, Bradford J.; Mosher, Michael D.; Verner, Erik J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-

trichloroacetyl)pyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.
Onami, Tetsuo; Kanazawa, Hitoshi. A Simple Method for Isolation of Caffeine from Black Tea Leaves: Use of a Dichloromethane-Alkaline Water Mixture as an Extractant. June, 556.
Onoda, M.; Kanda, N.; Asano, T.; Itoh, T. Preparing "Chameleon Balls" from Natural Plants: Simple Handmade pH Indicator and Teaching Material for Chemical Education. (Corrections) May, 425.
Ophardt, Charles E. Inorganic Molecules: A Visual Data Base. (JCE: Software) March, 246.
Ordman, Alfred B.; Brockman, Mark; Campbell, A. Malcom. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.
Ordman, Alfred B. Scientific Literature and Literacy: A Course of Practical Skills for Undergraduate Science Majors. August, 753.
Organ, Michael G.; Anderson, Paul. Carbonyl and Conjugate Additions to Cyclohexenone: Experiments Illustrating Reagent Selectivity. December, 1193.
Orna, O.S.U., Mary Virginia; Chen, Wen. Recent Advances in Archaeological Chemistry: A Summary of Three Major Papers Presented as an Introduction to the Archaeological Chemistry Symposium, Anaheim, California. June, 485.
Ortega, Fernando; Velez, Ernesto; Somanathan, Ratnasamy. The Modern Student Laboratory: Chromatography Synthesis and Use of Reverse-Phase Silica Gel for HPLC in Undergraduate Chemistry. (MODLAB) February, A26.
Ortega, Pedro; Guzmán, Miguel; Vera, Leonel. A Computer Calculation Method in Chemical Kinetics. (CS #190) October, 921.
Ortega, Pedro A.; Guzman, Miguel E.; Vera, Leonel. Useful Spreadsheet for Updating Multistep Organic Synthesis. (CS #188) August, 726.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.
Ottewill, Gerry A.; LeRoux, Xavier; Walsh, Frank C. The Comparative Performance of Batteries: The Lead–Acid and the Aluminum–Air Cells. August, 811.

P

Painter, Terence J. A Mnemonic for the Inositols. October, 949.
Palmer, Robert B.; Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.
Paniagua, Juan Carlos; Moyano, Albert. On the Way of Introducing Some Basic NMR Aspects: From the Classical and Naive Quantum Models to the Density-Operator Approach. April, 310.
Paradowski, Robert J. Some Personal Reflections of a Pauling Biographer on the Art and Science of Scientific Biography: The Biographical Quest. (SYM) January, 4.
Parcher, Jon F.; Yun, Kwang S. Gas Chromatographic Measurement of Void Volume and Mobile Phase Volume: Illustration of the Concepts of Excess and Total Adsorption. September, 894.
Patel, Manish N.; Lisensky, George C.; Reich, Megan L. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.
Pattacini, Silvio C. Use of a 10-cm Pathlength Quartz Cell for the Separation of the Isotopes of HCl Vapor. August, 822.
Paul, David; Swim, James; Earps, Edward; Reed, Laura M. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.
Pauls, Steven W.; Lehman, Thomas A. A Cheaper Laser Source for Beer's Law Experiments. (LTE) March, 286.
Pavelich, Michael J.; Russell, Arlene A. Faculty Rewards: Can We Implement the Scholarship of Teaching? A Summary of an Electronic Conference. November, A268.
Pearl, Greg M.; Lipkowitz, Kenny B.; Robertson, Daniel H.; Schultz, Franklin A. Computational Chemistry for the Inorganic Curriculum. February, 105.
Peisach, M.; Pillay, A. E. High Resolution Energy Dispersive Spectrometry with Charge-Induced X-Rays: Principles, Comparison with Other Methods, and Possible Applications. June, 508.
Petersen, Quentin R. The Use of a "Qual" Centrifuge for Greatly Simplifying and Speeding the Study of Milk. September, 848.
Peterson, Jim. Fluorometric Determination of Aluminum: A Quantitative Experiment for the Instrumental Analysis Laboratory. March, 262.
Pharr, Christine M.; Malmberg, Barry J.; Jegla, John D.; Gammon, Steven D. PVC Photometer: Computer-Assisted Spectroscopy Experiments. (CS #183) March, 238.
Phelps, Amy J. Teaching to Enhance Problem Solving: It's More than the Numbers. April, 301.
Phelps, Cindy L.; Smart, Neil G.; Wai, C. M. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.
Phillips, David; Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.
Pillay, A. E.; Peisach, M. High Resolution Energy Dispersive Spectrometry with Charge-Induced X-Rays: Principles, Comparison with Other Methods, and Possible Applications. June, 508.
Pine, Stanley H. The Society Committee on Education. November, A275.
Pinnell, Robert P.; Moeur, Harriet P. Use of the Disposable IR Card in the Organic Chemistry Laboratory. April, 371.
Pinto, Gabriel. Testing the Electrical Resistivity of Wax and Copper Composites. July, 683.
Plumsky, Roger. Transmuted Labs. (VIEW) May, 451.
Pogliani, Lionello; Berberan-Santos, Mário N. Inflation Rates, Car Devaluation, and Chemical Kinetics. October, 950.
Poiré, C.; Rabiller, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Pojman, John A.; West, William W. A Unified Physical Chemistry Laboratory Based on Oscillating Reactions and Traveling Fronts. (NSF) January, 35.
Pope, Sandi R.; Deal, S. Todd. Improved End Point Detection in the Redox Titration of Vitamin C in Green Peppers. June, 547.
Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.
Prakash, P. K. Sai; Toorkey, R. F.; Rajanna, K. C. Curing of Unsaturated Polyester: Network Formation. April, 372.
Pravia, Katia; Maynard, David F. Why Don't Water and Oil Mix? (OP) June, 497.
Probst, Donald A.; Henderson, Giles. Zinc Electrodes and the Thermodynamics of a Galvanic Cell. October, 962.
Purrington, Suzanne T.; Bieda, Kelly L. The Neglected Element in Sophomore Organic Chemistry. August, 754.

Q

Quigley, Michael N. A Solenoid-Operated Gas or Liquid Saver. February, 194.
Quigley, Michael N.; Vernon, Frederick. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.
Quigley, Michael N.; Vernon, Frederick. A Matrix Modification Experiment for Use in Electrothermal Atomic Absorption Spectrophotometry. October, 980.
Quigley, Michael N.; Adam, D. J.; Mainwaring, J. Soxhlet Extraction of Caffeine from Beverage Plants. December, 1171.
Quinzani, Oscar V.; Hernandez, Sandra A.; Rodriguez, Nora M. An Easily Constructed and Versatile Molecular Model. August, 748.
Quist, Per-Ola. Simple NMR Imaging. August, 751.

R

Rabending, Klaus; Schreckenbach, Joachim P. Demonstration of the Plasma State. (TD) August, 782.
Rabiller, C.; Poiré, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Rajanna, K. C.; Toorkey, R. F.; Prakash, P. K. Sai. Curing of Unsaturated Polyester: Network Formation. April, 372.
Ramachandraiah, Allikayala. A No-Cost Model of Liquid Structure. (AA) January, 59.
Ramachandran, B. R.; Halpern, Arthur M. Chemical Kinetics in Real Time: Using the Differential Rate Law and Discovering the Reaction Orders. July, 686.
Ramachandran, B. R.; Allen, John M.; Halpern, Arthur M. Air–Water Partitioning of Environmentally Important Organic Compounds: An Environmental Chemistry or Integrated Laboratory Experiment. November, 1058.
Ratna, Shashi Saxena; Upadhyay, Pramod. A Simple and Low-Cost Air Sampler. August, 787.
Ravera, M.; Mocellin, E.; Russell, R. A.; Hynson, T. Over 100 Years of Research on Cyclopentadienylironcarbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.
Rayner-Canham, Geoffrey W.; Rayner-Canham, Marelene F. Women's Fields of Chemistry: 1900–1920. February, 136.
Rayner-Canham, Geoffrey W.; Rayner-Canham, Marelene F. Women In Chemistry: Participation during the Early 20th Century. March, 203.
Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women's Fields of Chemistry: 1900–1920. February, 136.
Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women In Chemistry: Participation during the Early 20th Century. March, 203.
Rechtsteiner, Gregory; Green, David B.; Honodel, Amy. Determination of the Thermodynamic Solubility Product, $K_{sp}°$, of PbI_2 Assuming Nonideal Behavior: An Analytical Chemistry Experiment. August, 789.

Reed, B. Cameron. Estimating the Critical Mass of a Fissionable Isotope. February, 162.
Reed, Dorothy A.; Nocera, Daniel G.; Harrison, James F.; Roberts, Charles H. Enhanced Performance in Chemistry by Minorities at the University Level: A Comprehensive Program. December, 1131.
Reed, Laura M.; Swim, James; Earps, Edward; Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.
Rees, Thomas. Homeowner's Test for Lead in the Paint. July, 670.
Regentin, Curtis M.; Dharmasiri, Kuruppu A. N.; Davenport, Michael; Holland, Jack F.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.
Regis, Alberto; Albertazzi, Pier Giorgio; Roletto, Ezio. Concept Maps in Chemistry Education. November, 1084.
Reich, Megan L.; Lisensky, George C.; Patel, Manish N. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.
Reid, Brian P. Determining Intermolecular Potentials from Second Virial Coefficients. (CS #187) July, 612.
Reilly, Thomas J. Removing Silicone Greases from Round Bottom Flasks. April, 381.
Rettich, T. R.; Bailey, David N.; Frank, Forrest J.; Frick, Jeffrey A. An Integrated Curriculum for First- and Second-Year Chemistry Courses. (NSF) July, 638.
Rhodes, Gale. The Well-Read Biochemist. August, 732.
Ricci, Robert W.; Nestor, Lisa P. Beer–Lambert Law. (LTE) November, A261.
Rich, Ronald L. Boiling Point and Molecular Weight. (LTE) December, A294.
Richmond, G. L.; Swisher, Ron; Sercel, Peter C. Porous Silicon and the Search for a Silicon-Based LED. August, 738.
Risley, John M. An Organoleptic Laboratory Experiment. December, 1181.
Roberts, Charles H.; Nocera, Daniel G.; Harrison, James F.; Reed, Dorothy A. Enhanced Performance in Chemistry by Minorities at the University Level: A Comprehensive Program. December, 1131.
Roberts, J. L.; Selco, J. I.; Wacks, D. B. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.
Robertson, Daniel H.; Lipkowitz, Kenny B.; Pearl, Greg M.; Schultz, Franklin A. Computational Chemistry for the Inorganic Curriculum. February, 105.
Robinson, Rolland K.; De Jesus, Karl. The Mechanism of $NaBH_4$ Addition to Aldehydes: A Labelling Experiment. March, 264.
Robinson, William R. A View of the Science Education Research Literature. September, A191.
Roca R. M., Soler; Alvarez J., Galvez. A Simple Algorithm for the Distinction of Reaction Mechanisms Based on the Measurement of Additive Properties. March, 214.
Rocha, Fábio R. P.; Nóbrega , Joaquim A. Effects of Solution Physical Properties on Copper and Chromium Signals in Flame Atomic Absorption Spectrometry. October, 982.
Rodriguez, Nora M.; Hernandez, Sandra A.; Quinzani, Oscar V. An Easily Constructed and Versatile Molecular Model. August, 748.
Rogers, Paul W. A Simplified Procedure for Dipeptide Sequence Analysis in the Undergraduate Laboratory. February, 189.
Roletto, Ezio; Regis, Alberto; Albertazzi, Pier Giorgio. Concept Maps in Chemistry Education. November, 1084.
Rosan, Alan M. Visualizing the S_N2 Inversion. (LTE) October, A228.
Rosenfield, Stuart. Undergraduate Research. (LTE) October, A227.
Rowe, Bradley J.; Garin, David L.; Gamber, Melissa. Epoxidation of Alpha-Methylstyrene and Its Lewis Acid Rearrangement to 2-Phenylpropanal. June, 555.
Rowland, Alex T. Acryclic Saturated Ketones. (LTE) December, A296.
Rubinstein, Harry; Conte, Eric D.; Barry, Eugene F. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An Experiment for the Undergraduate Analytical Laboratory. December, 1169.
Russell, Arlene A.; Magner, John T.; Selke, Matthias; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.
Russell, Arlene A.; Pavelich, Michael J. Faculty Rewards: Can We Implement the Scholarship of Teaching? A Summary of an Electronic Conference. November, A268.
Russell, Douglas K. The Boltzmann Distribution. (TF) April, 299.
Russell, R. A.; Mocellin, E.; Ravera, M.; Hynson, T. Over 100 Years of Research on Cyclopentadienylironcarbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.
Rybolt, Thomas R.; Waddell, Thomas G. Sherlock Holmes and the Nebulous Nitro. December, 1157.
Rynearson, James A.; Curtright, Robert; Markwell, John. Anthocyanins: Model Compounds for Learning about More than pH. April, 306.

S

Saieed, Alfred E.; Davies, Keith M. A Simple Method for Determining the Temperature Coefficient of Voltaic Cell Voltage. (F&R) October, 959.
Samet, Cindy; Crouch, R. David; Holden, Michael S. CAChe Molecular Modeling: A Visualization Tool Early in the Undergraduate Chemistry Curriculum. (NSF) October, 916.
Sanger, Michael J.; Greenbowe, Thomas J. Provocative Opinion: Science-Technology-Society (STS) and ChemCom Courses Versus College Chemistry Courses: Is There a Mismatch? (PO) June, 532.
Sarquis, A. M.; Mason, P. K.; Williams, J. P. Take-Home Challenges: Extending Discovery-Based Activities beyond the General Chemistry Classroom. (NSF) April, 337.
Sattsangi, Prem D. Air Stream-Assisted Sublimation on a Microscale: A Rapid Procedure Suitable for Sophomore Laboratory. (ML) January, A3.
Sauers, Ronald R. Steric Attraction: The Far Side. February, 114.
Scantlebury, Kathryn; Trumbore, Conrad N.; Bevenour, Julie. Chemistry and the Human Environment: A Course for Non-Science Majors. November, 1012.
Scerri, Eric R.; Melrose, Melvyn P. Why the 4*s* Orbital Is Occupied before the 3*d*. June, 498.
Schäffer, Claus E.; Schäffer, Susan Cline. Fundamental Issues of Thermodynamics Illuminated by Conspicuous Inorganic Chemistry: Oxidation of $[Co(H_2O)_6]^{2+}$ to $[Co(H_2O)6]^{3+}$ by Hydrogen Peroxide: A Nonspontaneous Redox Reaction Made Feasible by Thermodynamic Coupling. February, 180.
Schäffer, Susan Cline; Schäffer, Claus E. Fundamental Issues of Thermodynamics Illuminated by Conspicuous Inorganic Chemistry: Oxidation of $[Co(H_2O)_6]^{2+}$ to $[Co(H_2O)6]^{3+}$ by Hydrogen Peroxide: A Nonspontaneous Redox Reaction Made Feasible by Thermodynamic Coupling. February, 180.
Schallies, Michale; Schnelle, Hans-Otto; Kunze, Klaus. The Use of PTFE Membranes for the Construction of Semimicroscale Gas Reactors. (ML) June, A128.
Scharlin, Pirketta; Cleveland, Audrey A.; Battino, Rubin; Thomas, Monica E. Glowing Veggies. (TD) May, 457.
Schatz, Paul F. Bromination of Acetanilide. March, 267.
Schatz, Paul F. Reports from Other Journals: Selected Articles from Education in Chemistry. September, A192.
Schatz, Paul F. Reports from Other Journals: Gleanings from Scientific American. October, A234.
Schauer, Cynthia K.; Bautista, Maria T.; Bynum, Lynikka D. Synthesis of η^2-Dihydrogen Complex, *trans*-$[Fe(\eta^2\text{-}H_2)H\{1,2\text{-}bis(diphenylphosphino)ethane\}_2][BF_4]$: An Experiment for an Advanced Inorganic Chemistry Laboratory Involving Synthesis and NMR Properties of an η^2-H_2 Complex. October, 988.
Schechinger, Linda; Waldman, Amy Sue; Nowick, James S. A Coordinated Chemistry Outreach Program for Thousands of High School Students. August, 762.
Schladetzky, Kurt; Swartz, James E. Experimental Illustration of the Utility of Lewis Structures: An FTIR Experiment for Introductory Chemistry. February, 188.
Schmedake, Thomas A.; Welch, Lawrence E. The Quantitative Analysis of an Analgesic Tablet: An NMR Experiment for the Instrumental Analysis Course . November, 1045.
Schmidt, Rebecca L.; Leary, James J. Quadrupole Mass Spectrometers: An Intuitive Look at the Math. December, 1142.
Schnable, Joseph G.; Kowalewski, Mary S. Viewing and Printing Scientific and Math ASCII Characters on Old and New IBM Compatible Computers. (CBB) June, A130.
Schnelle, Hans-Otto; Schallies, Michale; Kunze, Klaus. The Use of PTFE Membranes for the Construction of Semimicroscale Gas Reactors. (ML) June, A128.
Schomaker, Verner; Waser, Jurg. A Controversy about the Gibbs Function: Global Thermodynamics of Systems That Include Stressed Solids. (SYM) May, 386.
Schreckenbach, Joachim P.; Rabending, Klaus. Demonstration of the Plasma State. (TD) August, 782.
Schreiner, Serge; Gallaher, Thomas N.; Gaul, David A. The Esterification of Trifluoroacetic Acid: A Variable Temperature NMR Kinetics Study. May, 465.
Schultz, Emeric. Provocative Opinion: Dealing with Biological Challenge. (NSF) May, 447.
Schultz, Franklin A.; Lipkowitz, Kenny B.; Pearl, Greg M.; Robertson, Daniel H. Computational Chemistry for the Inorganic Curriculum. February, 105.
Scimone, Angelina A.; Scimone, Anthony. The Importance of Undergraduate General and Organic Chemistry to the Study of Biochemistry in Medical School. December, 1153.
Scimone, Anthony; Scimone, Angelina A. The Importance of Undergraduate General and Organic Chemistry to the Study of Biochemistry in Medical School. December, 1153.
Scott, Jacqueline L.; Gammon, Steven D.; Cannon, John F.; Hunsberger, Lynn R. Beer's Law: A Computerized Experiment. (JCE: Software) April, 324.
Sears, Jr., Curtis T.; Hixon, Susan H. Systemic Changes in the Undergraduate Chemistry Curriculum Program Award and Course and Curriculum Development Program Awards. (NSF) June, 525.
Sears, Jr., Curtis T.; Hixson, Susan H. Projects supported by the NSF Division of Undergraduate Education. (NSF) March, 249.
Seckin, Turgay; Kormali, Suphi M. An-Easy-to-Build Rotational Viscometer with Digital Readout. February, 193.
Secrest, Don. Osmotic Pressure and the Effects of Gravity on Solutions. October, 998.
Sees, Jennifer A.; Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.
Selco, J. I.; Roberts, J. L.; Wacks, D. B. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.

Selke, Matthias; Magner, John T.; Russell, Arlene A.; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.

Sen, Stephanie E.; Aniker, Keith S. ^{1}H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.

Senozan, N. M.; Devore, J. A. Carbon Monoxide Poisoning: Some Surprising Aspects of the Equilibrium between Hemoglobin, Carbon Monoxide, and Oxygen. August, 767.

Seoane, Carlos; Almy, John; Herrera, Antonio; Martín, Nazario; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro(6,6)C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.

Sercel, Peter C.; Swisher, Ron; Richmond, G. L. Porous Silicon and the Search for a Silicon-Based LED. August, 738.

Sharma, Brahama D. Molecular Orbital (Hückel) Theory and Linus Pauling: A Historical Perspective. August, 746.

Sharma, Brahama D. Myths about pH and pH Meters. (LTE) June, 598.

Shaw, Roosevelt; Hokmabadi, Mohammad. Raman Spectroscopic Determination of Heats of Vaporization of Pure Liquids. May, 474.

Sih, John C. A Consistent System for Coding Labratory Samples. July, 693.

Silberman, Robert G. Solubility and Thermodynamics: An Introductory Experiment. (F&R) May, 426.

Smart, Neil G.; Phelps, Cindy L.; Wai, C. M. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.

Smieja, J.; Crumpton, D. M.; Laitinen, R. A.; Cleary, D. A. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.

Smith, Barbara; Soran, Patrick D.; Neal, Everett E.; Mullen, Ken I. On-Line Surfactant Monitoring by Foam Generation. August, 819.

Smith, David H.; Coppola, Brian P. A Case for Ethics. January, 33.

Smith, Derek W. Stability Index Diagrams: Pictorial Representations of the Relative Stabilities of Oxidation States for Metallic Elements. November, 1099.

Smith, Derek W. Simple Treatment of the Symmetry Labels for the d-d States of Octahedral Complexes. June, 504.

Smith, Kimberly Jo; Metz, Patricia A. Evaluating Student Understanding of Solution Chemistry through Microscopic Representations. March, 233.

Smith, Kurt; Solomon, Sally; Hur, Chinyu; Lee, Alan. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.

Smith, Michael B. Disconnect by the Numbers: Protocol for the Synthesis of Alkanes. April, 304.

Smith, Richard D.; Hofstadler, Steven A.; Bakhtiar, Ray. Electrospray Ionization Mass Spectrometry: Part I. Instrumentation and Spectral Interpretation (CI). April, A82.

Smith, Richard D.; Bakhtiar, Ray; Hofstadler, Steven A. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.

Smith, S. Ruven; Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.

Smith, Stanley; Stovall, Iris. Networked Instructional Chemistry: Using Technology To Teach Chemistry. October, 911.

Smith, Terry L.; Huebner, Jay S.; Vergenz, Robert A. Astronomy Matters for Chemistry Teachers. November, 1073.

Snow, Nicholas H. Determination of Free-Energy Relationships Using Gas Chromatography. June, 592.

Snyder, Donald M. Olefin Metathesis Polymerization: The Unexpected Role of Carbenoid Species in Formation of Macromolecules. February, 155.

Snyder, Laura; Chakravarthy, Manu; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.

Solomon, Sally; Hur, Chinhyu; Lee, Alan. Diffusion Rate on the Overhead Projector: Amines Compared to HCl. (OP) January, 81.

Solomon, Sally; Hur, Chinyu; Lee, Alan; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.

Somanathan, Ratnassamy; Ortega, Fernando; Velez, Ernesto. The Modern Student Laboratory: Chromatography Synthesis and Use of Reverse-Phase Silica Gel for HPLC in Undergraduate Chemistry. (MODLAB) February, A26.

Soran, Patrick D.; Neal, Everett E.; Smith, Barbara; Mullen, Ken I. On-Line Surfactant Monitoring by Foam Generation. August, 819.

Sotiriou-Leventis, Chariklia; Hanna, Samir B.; Leventis, Nicholas. Relative Stabilities and Reactivities of Isolated versus Conjugated Alkenes: Reconciliation via a Molecular Orbital Approach. April, 295.

Spain, James D. Electronic Homework: Computer-Interactive Problem Sets for General Chemistry. March, 222.

Sparberg, Esther B. Hindsight and the History of Chemistry. March, 199.

Spencer, Harry E. Mathematical SAT Test Scores and College Chemistry Grades. December, 1150.

Spencer, James N.; Gillespie, Ronald J.; Moog, Richard S. Demystifying Introductory Chemistry Part 1: Electron Configurations from Experiment. (FORUM) July, 617.

Spencer, James N.; Gillespie, Ronald J.; Moog, Richard S. Demystifying Introductory Chemistry Part 2: Bonding and Molecular Geometry without Orbitals-The Electron Domain Model. (FORUM) July, 622.

Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 3: Ionization Energies, Electronegativity, Polar Bonds and Partial Charges. (FORUM) July, 627.

Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 4: An Approach to Reaction Thermodynamics through Enthalpies, Entropies, and Free Energies of Atomization. (FORUM) July, 631.

Sproch, Norman; Begin, Kelly J.; Morris, Robert J. The Modern Student Laboratory: Chromatography: An LC/Particle Beam/MS Experiment for Undergraduates. (MODLAB) February, A33.

Srikrishna, A. A Rapid Way of Computing the Number of Rings Present in a Polycyclic Organic Compound. May, 428.

Steinberg, Cathleen S.; Charonnat, Jeffrey A. Microscale Synthesis of 2,3:5,6-Di-*O*-isopropylidene-α-D-mannofuranose ("Diacetone Mannose"). (ML) August, A170.

Steinhart, Carol. Chemistry behind the News: Sick Cows, Protein Geometry, and Politics. October, A232.

Steinhart, Carol. Conjugated Linoleic Acid—The Good News about Animal Fat. December, A302.

Stevens, Karen E.; Stevens, Richard E. Use of the World Wide Web in Lower-Division Chemistry Courses. October, 923.

Stevens, Richard E.; Stevens, Karen E. Use of the World Wide Web in Lower-Division Chemistry Courses. October, 923.

Stewart, Daniel. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 823.

Stiakaki, M.-A. D.; Bakalbassis, E. G.; Tsipis, A. C.; Tsipis, C. A. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.

Stick, Robert V.; Mocerino, Mauro. Sodium Chloride Revisited. (TD) June, 539.

Stick, Robert V.; Mocerino, Mauro. Azo Dyes. (TD) June, 540.

Stout, Roland. Redox Challenges. (LTE) October, A227.

Stovall, Iris; Smith, Stanley. Networked Instructional Chemistry: Using Technology To Teach Chemistry. October, 911.

Strawbridge, Patricia B.; Chen, Carol; Dyer, Jeanne Murgado. Report: 1996 Cost-Effective, Hands-On Chemistry Education Conference. October, A236.

Strizhak, Peter; Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. September, 868.

Stuart, James D.; Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.

Stucke, Ann; Gannaway, Susan P. New Literature Suggests that We Don't Have To Teach Everything in the Textbook. (TP) August, 773.

Subramaniam, R.; Goh, N. K.; Chia, L. S. On the Masses of the Fundamental Particles in the Bound State. July, 663.

Suding-Moster, Heather L.; Buccigross, Jeanne M.; Bedell, Cynthia M. Fluorescent Measurement of TNS Binding to Calmodulin: A Biochemistry Laboratory Experiment. March, 275.

Sullins, D. W.; Denton, T. T.; Eisenbraun, E. J. Soxhlet Apparatus and Chromatography Columns Combined. April, 380.

Sundback, Karen A. Testing for Lead in the Environment. (F&R) July, 669.

Sundelöf, Lars-Olof; Haglund, Bert O.; Wurster, Dale Eric; Upadrashta, Sathyanarayana M. Effect of SDS Micelles on Rhodamine-B Diffusion in Hydrogels. September, 889.

Supplee, Danielle; Taber, Douglass F.; Meagley, Robert P. A Colorful Grignard Reaction: Preparation of the Triarylmethane Dyes from 4-Bromo-*N*,*N*-Dimethylaniline. March, 259.

Sutter, Dieter H. Free Enthalpy, Lagrange Multipliers, and Thermal Expansion: A Possibly Novel Way To Derive the Law of Mass Action. August, 718.

Suzuki, Toshiyasu; Almy, John; Herrera, Antonio; Martín, Nazario; Seoane, Carlos; Wudl, Fred. The Synthesis of 10-[Spiro(6,6)C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.

Swartz, James E.; Schladetzky, Kurt. Experimental Illustration of the Utility of Lewis Structures: An FTIR Experiment for Introductory Chemistry. February, 188.

Swim, James; Earps, Edward; Reed, Laura M.; Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.

Swisher, Ron; Richmond, G. L.; Sercel, Peter C. Porous Silicon and the Search for a Silicon-Based LED. August, 738.

Symington, David; Kirkwood, Valda. Lecturer Perceptions of Student Difficulties in a First-Year Chemistry Course. April, 339.

Szczerbicki, Sandra K.; Leber, Phyllis A. Theme-Based Bidisciplinary Chemistry Laboratory Modules. (NSF) December, 1130.

T

Taber, Douglass F.; Meagley, Robert P.; Supplee, Danielle. A Colorful Grignard Reaction: Preparation of the Triarylmethane Dyes from 4-Bromo-N,N-Dimethylaniline. March, 259.

Taber, Douglass F.; Wang, Yanong; Liehr, Sebastian. Mini-scale Oxidation/Reduction in Organic Laboratory Course: 4-Nitrobenzaldehyde/ 4-Nitrobenzyl Alcohol. (ML) November, 1042.

Taitch, Darren; McGoran, Ernest C.; Melton, Cameron. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.

Takauye, Kenn M.; Kiefer, Edgar F. Methylene-*bis*-amide (MBA) Derivatives for Characterization of Nitriles. February, 190.

Taylor, Cynthia J.; Hayes II, Jerry W.; Hotz, Richard P. Novel Preparation of a Tetraaza Macrocycle: An Advanced Inorganic Chemistry Laboratory. October, 991.

ten Hoor, Marten J. The Formation of Urea: Controversies and Confusion. January, 42.

ten Hoor, Marten J. Inorganic Nomenclature. (LTE) August, 825.

Teweldemedhin, Z. S.; Fuller, R. L.; Greenblatt, M. Magnetic Susceptibility Measurements of Solid Manganese Compounds with Evan's Balance. September, 906.

Thall, Edwin. When Drug Molecules Look in the Mirror. June, 481.

Thomas, Eugene. Laser Pointer and the Tyndall Effect. May, 470.

Thomas, Monica E.; Scharlin, Pirketta; Cleveland, Audrey A.; Battino, Rubin. Glowing Veggies. (TD) May, 457.

Thomas, Oleta M. Inner City Students. (LTE) October, A228.

Thomsen, Volker. Swedish Chemists and Discovery of the Elements. October, 937.

Thorsell, David L.; Deltete, Robert J. Josiah Willard Gibbs and Wilhelm Ostwald: A Contrast in Scientific Style. April, 289.

Tidwell, Thomas T. The Electrophilic Addition to Alkynes Revisited. November, 1081.

Tirri, Lawrence; Manning, Bradford; Johnson, Brian J. Development and Evaluation of a Program of Study in Hazardous Materials Management. April, 351.

Tišler, Miha; Kolar, Patrik. A Convenient Synthesis of the Tetrasubstituted Pyrrole: An Undergraduate Heterocyclic Laboratory Experiment. October, 986.

Tissue, Brian M. Applying Hypermedia to Chemical Education. (CS #181) January, 65.

Tissue, Brian M.; Earp, Ronald L.; Yip, Ching-Wan; Anderson, Mark R. Development and Evaluation of Internet-Based Hypermedia Chemistry Tutorials. (NSF) May, 446.

Toloudis, Miriam. The Size of a Mole. (AA) April, 348.

Toong, Yock Chai. Bench Top Vortexing Countercurrent Extractor for Controlled pH Extraction of a Mixture. May, 476.

Toorkey, R. F.; Rajanna, K. C.; Prakash, P. K. Sai. Curing of Unsaturated Polyester: Network Formation. April, 372.

Torres, Luz María; Gil, Adrián F.; Galicia, Laura; González, Ignacio. Understanding the Difference between Inner- and Outer-Sphere Mechanisms: An Electrochemical Experiment. August, 808.

Tóth, Zoltán. A Demonstration of Wöhler's Experiment: Preparation of Urea from Ammonium Chloride and Potassium Cyanate. (TD) June, 539.

Treadway, Jr., William J. The Multimedia Chemistry Laboratory: Perception and Performance. (CS #189) September, 876.

Treptow, Richard S. Free Energy versus Extent of Reaction: Understanding the Difference between ΔG and $\partial G/\partial \xi$. January, 51.

Trumbore, Conrad N.; Bevenour, Julie; Scantlebury, Kathryn. Chemistry and the Human Environment: A Course for Non-Science Majors. November, 1012.

Tsipis, A. C.; Bakalbassis, E. G.; Stiakaki, M.-A. D.; Tsipis, C. A. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.

Tsipis, C. A.; Bakalbassis, E. G.; Stiakaki, M.-A. D.; Tsipis, A. C. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.

Tucker, Sheryl A.; Powell, Joyce R.; Acree Jr., William E.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.

Tudela, David. Activity Series of Metals. (LTE) October, A225.

Tudela, David. Infrared Spectroscopy and Bond Strengths. (LTE) December, A297.

Turnbull, Marilyn; Varco-Shea, Theresa C.; Darlington, Jeanne. Group Project Format in First-Semester General Chem Lab. June, 536.

Turner, Ralph; Lin, Qun; Kirsch, Paul. Numeric and Conceptual Understanding of General Chemistry at a Minority Institution. October, 1003.

Tykodi, R. J. A Controversy about the Gibbs Function: The Gibbs Function; Spontaneity and Walls. (SYM) May, 398.

U

Underwood, Gayl A.; Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.

Upadhyay, Pramod; Ratna, Shashi Saxena. A Simple and Low-Cost Air Sampler. August, 787.

Upadrashta, Sathyanarayana M.; Haglund, Bert O.; Wurster, Dale Eric; Sundelöf, Lars-Olof. Effect of SDS Micelles on Rhodamine-B Diffusion in Hydrogels. September, 889.

V

Van Galen, Dean; Delaware, Dana L.; Freeman, R. Griff; Moody, Anne E. The Freshman Chemistry Seminar. (FORUM) February, 144.

van Zyl, Pam; Glasser, Lesile; Bradley, John D.; Brink, George. CAI for Chemistry. (JCE: Software) April, 323.

vanLoon, Gary W.; Duffy, Stephen J. Interfacing Techniques for Instrumental Analysis: An Exercise. (CS #184) April, 318.

Vanyo, Timothy; Chakravarthy, Manu; Snyder, Laura; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.

Varache-Lembège, Martine; Nuhrich, Alain; Lacan, Fabrice; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.

Varco-Shea, Theresa C.; Darlington, Jeanne; Turnbull, Marilyn. Group Project Format in First-Semester General Chem Lab. June, 536.

Vázquez-Vidal, Luis. MOLSYM: A Program on Molecular Symmetry and Group Theory. (CS #184) April, 321.

Velez, Ernesto; Ortega, Fernando; Somanathan, Ratnassamy. The Modern Student Laboratory: Chromatography Synthesis and Use of Reverse-Phase Silica Gel for HPLC in Undergraduate Chemistry. (MODLAB) February, A26.

Vemulapalli, G. K.; Kukolich, S. G. Why Does a Stream of Water Deflect in an Electric Field? September, 887.

Vera, Leonel; Guzmán, Miguel; Ortega, Pedro. A Computer Calculation Method in Chemical Kinetics. (CS #190) October, 921.

Vera, Leonel; Ortega, Pedro A.; Guzman, Miguel E. Useful Spreadsheet for Updating Multistep Organic Synthesis. (CS #188) August, 726.

Vergenz, Robert A.; Huebner, Jay S.; Smith, Terry L. Astronomy Matters for Chemistry Teachers. November, 1073.

Verner, Erik J.; Mosher, Michael D.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.

Vernon, Frederick; Quigley, Michael N. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.

Vernon, Frederick; Quigley, Michael N. A Matrix Modification Experiment for Use in Electrothermal Atomic Absorption Spectrophotometry. October, 980.

Vietri, Nicholas; Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.

Vincent, Alan. An Alternative Derivation of the Energy Levels of the "Particle on a Ring" System. October, 1001.

Viswanathan, R.; Lisensky, G.; Dobson, D. A. Off-the-Shelf Portable Data Acquisition: Interfacing a Serial-Port-Equipped Multimeter. (CBB) February, A41.

Vitz, Ed; Binning, Robert. Inexpensive Exemplars for the Wave Model of Electronic Structure and Light. (TD) February, 171.

Vogel, Glenn C.; Drago, Russell S. The ECW Model. August, 701.

Volpi, Sabrina; Ciaccio, James A.; Clarke, Ransford. Grignard Reaction of an Epoxide: A Mechanistic Study. December, 1196.

W

Wacks, D. B.; Roberts, J. L.; Selco, J. I. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.

Waddell, Thomas G.; Rybolt, Thomas R. Sherlock Holmes and the Nebulous Nitro. December, 1157.

Wai, C. M.; Phelps, Cindy L.; Smart, Neil G. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.

Waldman, Amy Sue; Schechinger, Linda; Nowick, James S. A Coordinated Chemistry Outreach Program for Thousands of High School Students. August, 762.

Walsh, Edward J. Chemistry and Biology. December A305.

Walsh, Frank C.; LeRoux, Xavier; Ottewill, Gerry A. The Comparative Performance of Batteries: The Lead–Acid and the Aluminum–Air Cells. August, 811.

Wamser, Carl C.; Wamser, Christian. Lejaren A. Hiller, Jr.: A Memorial Tribute to a Chemist–Composer. July, 601.

Wamser, Christian; Wamser, Carl C. Lejaren A. Hiller, Jr.: A Memorial Tribute to a Chemist–Composer. July, 601.

Wang, Joseph; Maccà, Carlo. Use of Blood-Glucose Test Strips for Introducing Enzyme Electrodes and Modern Biosensors. August, 797.

Wang, Yanong; Taber, Douglass F.; Liehr, Sebastian. Mini-scale Oxidation/Reduction in Organic Laboratory Course: 4-Nitrobenzaldehyde/ 4-Nitrobenzyl Alcohol. (ML) November, 1042.
Warden, Joseph T.; Holmes, Colette O. CIStudio: A Worldwide Web-Based, Interactive Chemical Information Course. (CII) April, 325.
Ware, Sylvia A. American Chemical Society: An Overview of the Education Division. October, A238.
Ware, Sylvia A. Chemistry in the National Science Education Standards. December, A307.
Warnhoff, E. W. The Curiously Intertwined Histories of Benzene and Cyclohexane. June, 494.
Waser, Jurg; Schomaker, Verner. A Controversy about the Gibbs Function: Global Thermodynamics of Systems That Include Stressed Solids. (SYM) May, 386.
Washburn, Anna Marie; Deese, William. Relative Rates of Effusion through Punctured Balloons. (TD) June, 540.
Watson, J. Throck; Dharmasiri, Kuruppu A. N.; Davenport, Michael; Regentin, Curtis M.; Holland, Jack F. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.
Weaver, Gabriela C.; Kimbrough, Doris R. Colorful Kinetics. (OP) March, 256.
Weimer, Peter M.; Battino, Rubin. The Incredible Glowing Pickle and Onion and Potato and.... (TD) May, 456.
Weiss, Hilton M. Further Comments upon the Electrophilic Addition to Alkynes: A Response to Criticism from Professor Thomas T. Tidwell. November, 1082.
Welch, Lawrence; Mossman, Daniel M.; Kooser, Robert G. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.
Welch, Lawrence E.; Schmedake, Thomas A. The Quantitative Analysis of an Analgesic Tablet: An NMR Experiment for the Instrumental Analysis Course.1 November, 1045.
West, William W.; Pojman, John A. A Unified Physical Chemistry Laboratory Based on Oscillating Reactions and Traveling Fronts. (NSF) January, 35.
White, Jeffrey S.; Hamilton, Jay R.; Nakhleh, Mary B. Development of a Low-Cost Four-Color LED Photometer. November, 1052.
Wiberg, Kenneth B. The Role of Electrostatic Effects in Organic Chemistry. November, 1089.
Wiechoczek, Dagmar; Hildebrand, Achim; Hilgers, Uwe; Blume, Rüdiger. Playing with the Soccer Ball—an Experimental Introduction to Fullerene Chemistry. November, 1066.
Wietsma, Thomas W.; Muyskens, Mark A.; Glass, Samuel V.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.
Wigman, Larry S.; Hart, Elizabeth E.; Gombatz, Constance. IR Spectroscopy Using Disposable Polyethylene Cards: A Replacement for KBr Pellets and Mulls. July, 677.
Williams, Darren L.; Minarik, Phillip R.; Nibler, Joseph W. PC Calculations Using Gaussian for Windows. (CS #187) July, 608.
Williams, Howard P. Square Roots of Negative Numbers. (LTE) May, 478.
Williams, J. P.; Mason, P. K.; Sarquis, A. M. Take-Home Challenges: Extending Discovery-Based Activities beyond the General Chemistry Classroom. (NSF) April, 337.
Williams, Matthew; Gilmer, T. Carter. Polymer Mechanical Properties via a New Laboratory Tensile Tester . November, 1062.
Willis, Grover C.; Cooke, Ron C. Which $E°$ Is it? The Story of a Student Discovery. (CP) May, 450.
Wilson, Byron J.; Hansen, Lee D.; Garner, Judy L.; Cluff, Coran L.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.
Winder, Edmund J.; Ellis, Arthur B.; Lisensky, George C. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.
Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.
Wisniecki, Peter; Guisto-Norkus, Rebecca; Gounili, Giv; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.
Wojciechowski, Brenda J.; Deal, S. Todd. From Lecture Hall to the Laboratory: The Pinacol Rearrangement: Fostering Problem Solving Abilities and Critical Thinking Skills of the Organic Chemistry Student. January, 85.
Wolfson, Adele J.; Hall, Mona L.; Branham, Thomas R. An Integrated Biochemistry Laboratory, Including Molecular Modeling. November, 1026.
Wong, Ngai M.; Drago, Russell S. The Role of Electron-Density Transfer and Electronegativity in Understanding Chemical Reactivity and Bonding. February, 123.
Wood, Jim; Clausen, Thomas P.; Johnson, Beverly. A Mixed Aldol Condensation-Michael Addition Experiment. March, 266.
Wood, John T.; Eddy, Roberta M. Olfactory Titration. (F&R) March, 257.
Wood, John T.; Eddy, Roberta M. What's the Shiny Stuff in Drano? (F&R) May, 463.
Wood, Scott E.; Battino, Rubin. The Gibbs Function Controversy. (SYM) May, 408.
Wright, J. Monty; Jacobsen, Erica Bode; Jacobsen, Jerrold J. HIV-1 Protease: An Enzyme at Work. (JCE: Software) January, 63.
Wright, John C. Authentic Learning Environment in Analytical Chemistry Using Cooperative Methods and Open-Ended Laboratories in Large Lecture Courses. September, 827.
Wright, Stephen W. An Improved Container for Solutions of Yellow Phosphorus. August, 818.
Wruck, Betty J. Reinforcing Net Ionic Equation Writing: Second Semester. February, 149.
Wudl, Fred; Almy, John; Herrera, Antonio; Martín, Nazario; Seoane, Carlos; Suzuki, Toshiyasu. The Synthesis of 10-[Spiro[6,6]C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.
Wurster, Dale Eric; Haglund, Bert O.; Sundelöf, Lars-Olof; Upadrashta, Sathyanarayana M. Effect of SDS Micelles on Rhodamine-B Diffusion in Hydrogels. September, 889.

X

Xin, Xinquan; Lei, Lixu; Yao, Xuebin. Classroom Demonstration of Solid State Reaction at Room Temperature. (TD) November, 1018.

Y

Yao, Xuebin; Lei, Lixu; Xin, Xinquan. Classroom Demonstration of Solid State Reaction at Room Temperature. (TD) November, 1018.
Yip, Ching-Wan; Tissue, Brian M.; Earp, Ronald L.; Anderson, Mark R. Development and Evaluation of Internet-Based Hypermedia Chemistry Tutorials. (NSF) May, 446.
You, Li-Shu; Li, Jin; Dai, Le-Sui. A Modified Demonstration of the Activation Energy Concept. (TD) October, 948.
Yun, Kwang S.; Parcher, Jon F. Gas Chromatographic Measurement of Void Volume and Mobile Phase Volume: Illustration of the Concepts of Excess and Total Adsorption. September, 894.

Z

Zafran, Robert. From the Research Laboratory to the Classroom: A *Partners-in-Science* Experience. (TP) January, 78.
Zanella, Andrew W.; Lawrence, Barbara A. A Simple Method for Producing A Mixture of Gaseous HCl and DCl for Measuring Their Vibrational-Rotational Spectra. April, 367.
Zapata, J. M.; Barceló, A. Ros. Measurement of Quantum Yield, Quantum Requirement, and Energetic Efficiency of the O_2-Evolving System of Photosynthesis by a Simple Dye Reaction. November, 1034.
Zare, Richard N. National Science Board. Where's the Chemistry in Science Museums. September, A198.
Zarzycki, Pawel K.; Lamparczyk, Henryk. A Simple Experiment Demonstrating the Temperature Effect in Supramolecular Chemistry. (TD) May, 459.
Zaugg, Noel S. Redox Challenges. (LTE) October, A226.
Zengpei, Zhong; Lee, Albert W. M. Staining TLC Plate Using a Cotton Ball. April, 358.
Zhou, Rei E. How To Offer the Optimal Demonstration of the Electroysis of Water. August, 786.
Zimmer, Marc; Comba, Peter. Inorganic Molecular Mechanics. February, 108.
Zimmerman, John; Jacobsen, Jerrold J. Quantitative Techniques in Volumetric Analysis. (JCE: Software) December, 1117.
Zook, C. M.; Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Mosbo, J. A. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Zumdahl, Susan Arena. Mission Impossible? Improving Retention of Science Majors among Minorities and Women. November, A266.
Zweerink, Gerald; Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.

Subject Index

Acid–Base Chemistry

Duffy, J. A. Optical Basicity: A Practical Acid–Base Theory for Oxides and Oxyanions. December, 1138.

García-Doménech, R.; de Julián-Ortiz, J. V.; Antón-Fos, G. M.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.

Hancock, Robert D.; Martell, Arthur E. Hard and Soft Acid–Base Behavior in Aqueous Solution. July, 654.

Hawkes, Stephen J. All Positive Ions Give Acid Solutions in Water. June, 516.

Kanda, N.; Asano, T.; Itoh, T.; Onoda, M. Preparing "Chameleon Balls" from Natural Plants: Simple Handmade pH Indicator and Teaching Material for Chemical Education. (Corrections) May, 425.

Kogut, Leonard S. Using Quality Circles in General Chemistry. (FORUM) February, 146.

Swim, James; Earps, Edward; Reed, Laura M.; Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.

Vogel, Glenn C.; Drago, Russell S. The ECW Model. August, 701.

Administrative

Adamchik, Jr., Charles F. The Design and Assessment of Chemistry Portfolios. (TP) June, 528.

Dev, Vasu. Report of the CACT Summer Conference. February, 148.

Hixson, Susan H.; Sears, Jr., Curtis T. Projects supported by the NSF Division of Undergraduate Education. (NSF) March, 249.

Lagowski, J. J. Departments as Agents of Change. (Editorial) July, 599.

Moseley, Charles G. An Improved Microsoft Excel Grade Book. January, 62.

Ware, Sylvia A. American Chemical Society: An Overview of the Education Division. October, A238.

Aluminum

Peterson, Jim. Fluorometric Determination of Aluminum: A Quantitative Experiment for the Instrumental Analysis Laboratory. March, 262.

Amino Acids/DNA

Booth, Harold; Hey, Michael J. DNA before Watson & Crick—The Pioneering Studies of J. M. Gulland and D. O. Jordan at Nottingham. October, 928.

Bowlus, R. David; Grether, Susan C. A Rapid PCR Lab Exercise. (LTE) May, 477.

Brockman, Mark; Ordman, Alfred B.; Campbell, A. Malcom. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.

Chen, Wen; Orna, O.S.U., Mary Virginia. Recent Advances in Archaeological Chemistry: A Summary of Three Major Papers Presented as an Introduction to the Archaeological Chemistry Symposium, Anaheim, California. June, 485.

Kolar, Patrik; Tišler, Miha. A Convenient Synthesis of the Tetrasubstituted Pyrrole: An Undergraduate Heterocyclic Laboratory Experiment. October, 986.

Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.

Ammonia

David, Carl W. IR Vibration–Rotation Spectra of the Ammonia Molecule. January, 46.

Analytical Chemistry

Bello, M. A.; González, A. Gustavo. Determination of Phosphate in Cola Beverages Using Nonsuppressed Ion Chromatography: An Experiment Introducing Ion Chromatography for Quantitative Analysis. December, 1174.

Brazdil, Linda C. Oxygenates in Gasoline: A Versatile Experiment Using Gas Chromatography. November, 1056.

Conte, Eric D.; Barry, Eugene F.; Rubinstein, Harry. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An Experiment for the Undergraduate Analytical Laboratory. December, 1169.

Dharmasiri, Kuruppu A. N.; Davenport, Michael; Regentin, Curtis M.; Holland, Jack F.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.

Drew, Steven M. Integration of National Instruments' LabVIEW Software into the Chemistry Curriculum. December, 1107.

Duffy, Stephen J.; vanLoon, Gary W. Interfacing Techniques for Instrumental Analysis: An Exercise. (CS #184) April, 318.

García-Armada, Pilar; Losada, José; de Vicente-Pérez, Santiago. Cation Analysis Scheme by Differential Pulse Polarography. June, 544.

García-Doménech, R.; de Julián-Ortiz, J. V.; Antón-Fos, G. M.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.

Gostowski, Rudy. Teaching Analytical Instrument Design with LabVIEW. December, 1103.

Green, David B.; Rechtsteiner, Gregory; Honodel, Amy. Determination of the Thermodynamic Solubility Product, $K_{sp}°$, of PbI_2 Assuming Nonideal Behavior: An Analytical Chemistry Experiment. August, 789.

Grossman, William E. L. QUNLAB: A Program for the Quantitative Analysis Laboratory. (CS #187) July, 611.

Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.

Hauser, Peter C.; Cates, Norman E. An Inexpensive Detector for Absorbance Measurements in Flow-Injection Analysis. February, 191.

Hernlem, Bradley J. A Versatile and Economical Automated Titration Apparatus. (CS #189) September, 878.

Leary, James J.; Schmidt, Rebecca L. Quadrupole Mass Spectrometers: An Intuitive Look at the Math. December, 1142.

Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Chromatographic Separation of Phosphoric Acid from Cola Beverages. December, 1172.

Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Determination of Phosphorus in Cola Drinks. December, 1173.

Mabrouk, Patricia Ann. Planning a Day at PITTCON: An Introduction to Current Trends in Analytical Research for Undergraduates. (TCI) February, A23.

Mabrouk, Patricia Ann. The Modern Student Laboratory: Purification of Horse Heart Cyt c by Ion Exchange. (MODLAB) July, A149.

Markow, Peter G. Determining the Lead Content of Paint Chips: An Introduction to AAS. February, 178.

Marriott, Philip J.; Carpenter, Peter D. Capillary Gas Chromatography Injection: An Exercise for Students of Instrumental Analysis. January, 96.

Mossman, Daniel M.; Kooser, Robert G.; Welch, Lawrence. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.

Muyskens, Mark A.; Glass, Samuel V.; Wietsma, Thomas W.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.

Peterson, Jim. Fluorometric Determination of Aluminum: A Quantitative Experiment for the Instrumental Analysis Laboratory. March, 262.

Pillay, A. E.; Peisach, M. High Resolution Energy Dispersive Spectrometry with Charge-Induced X-Rays: Principles, Comparison with Other Methods, and Possible Applications. June, 508.

Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.

Quigley, Michael N. A Solenoid-Operated Gas or Liquid Saver. February, 194.

Quigley, Michael N.; Vernon, Frederick. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.

Quigley, Michael N.; Vernon, Frederick. A Matrix Modification Experiment for Use in Electrothermal Atomic Absorption Spectrophotometry. October, 980.

Rocha, Fábio R. P.; Nóbrega , Joaquim A. Effects of Solution Physical Properties on Copper and Chromium Signals in Flame Atomic Absorption Spectrometry. October, 982.

Schmedake, Thomas A.; Welch, Lawrence E. The Quantitative Analysis of an Analgesic Tablet: An NMR Experiment for the Instrumental Analysis Course . November, 1045.

Torres, Luz María; Gil, Adrián F.; Galicia, Laura; González, Ignacio. Understanding the Difference between Inner- and Outer-Sphere Mechanisms: An Electrochemical Experiment. August, 808.

Wang, Joseph; Maccà, Carlo. Use of Blood-Glucose Test Strips for Introducing Enzyme Electrodes and Modern Biosensors. August, 797.

Wright, John C. Authentic Learning Environment in Analytical Chemistry Using Cooperative Methods and Open-Ended Laboratories in Large Lecture Courses. September, 827.

Zimmerman, John; Jacobsen, Jerrold J. Quantitative Techniques in Volumetric Analysis. (JCE: Software) December, 1117.

Aqueous Solution Chemistry

Hancock, Robert D.; Martell, Arthur E. Hard and Soft Acid–Base Behavior in Aqueous Solution. July, 654.

Hawkes, Stephen J. Salts are Mostly *NOT* Ionized. May, 421.

Hawkes, Stephen J. All Positive Ions Give Acid Solutions in Water. June, 516.
Kildahl, Nicholas. A Simpler Approach to "Apparent" pK_a's. (LTE) June, 598.
Manning, Thomas J. Approximating the Electrostatic Contribution to ΔS for Aqueous Phase Lanthanide–Aminocarboxylate Complexation. July, 661.
Olander, Claire R. An n-Bottle Lab Exercise with No Hazardous Waste. September, 849.
Wruck, Betty J. Reinforcing Net Ionic Equation Writing: Second Semester. February, 149.

Astrochemistry

Huebner, Jay S.; Verganz, Robert A.; Smith, Terry L. Astronomy Matters for Chemistry Teachers. November, 1073.

Atomic Properties/Structure

Dalby, David K. Bigger and Brighter Flame Tests. (TD) January, 80.
Dominic, Sheryl. What's a Mole For? (TP) April, 309.
Drago, Russell S.; Wong, Ngai M. The Role of Electron-Density Transfer and Electronegativity in Understanding Chemical Reactivity and Bonding. February, 123.
Duncan, Robert L. Electronic Configuration Pattern Found in Pascal's Triangle. August, 742.
Gerothanassis, I. P.; Kalodimos, C. G. NMR Shielding and the Periodic Table. August, 801.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 1: Electron Configurations from Experiment. (FORUM) July, 617.
Graham, Donald M. A 3-D Diagram of the Relationships among Atomic Orbitals. March, 210.
Jensen, William B. Electronegativity from Avogadro to Pauling: Part 1: Origins of the Electronegativity Concept. (SYM) January, 11.
Melrose, Melvyn P.; Scerri, Eric R. Why the 4*s* Orbital Is Occupied before the 3*d*. June, 498.
Smith, Derek W. Stability Index Diagrams: Pictorial Representations of the Relative Stabilities of Oxidation States for Metallic Elements. November, 1099.
Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 3: Ionization Energies, Electronegativity, Polar Bonds and Partial Charges. (FORUM) July, 627.
Subramaniam, R.; Goh, N. K.; Chia, L. S. On the Masses of the Fundamental Particles in the Bound State. July, 663.
Swartz, James E.; Schladetzky, Kurt. Experimental Illustration of the Utility of Lewis Structures: An FTIR Experiment for Introductory Chemistry. February, 188.
Thomsen, Volker. Swedish Chemists and Discovery of the Elements. October, 937.
Toloudis, Miriam. The Size of a Mole. (AA) April, 348.
Vitz, Ed; Binning, Robert. Inexpensive Exemplars for the Wave Model of Electronic Structure and Light. (TD) February, 171.

Biochemistry

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.
Barceló, A. Ros; Zapata, J. M. Measurement of Quantum Yield, Quantum Requirement, and Energetic Efficiency of the O_2-Evolving System of Photosynthesis by a Simple Dye Reaction. November, 1034.
Barmettler, Peter. Biochemical Data on the Web. (CS #186) June, 520.
Bedell, Brooke L.; Crouch, R. David; Holden, Michael S.; Martinson, Heidi E. A Glycosidation Reaction Employing Montmorillonite K-10 as Catalyst. (ML) November, 1041.
Bonser, Amy M.; Moe, Owen A. Labeling Histidines in Cytochrome c: An Integrated Laboratory Project. August, 794.
Booth, Harold; Hey, Michael J. DNA before Watson & Crick—The Pioneering Studies of J. M. Gulland and D. O. Jordan at Nottingham. October, 928.
Buccigross, Jeanne M.; Bedell, Cynthia M.; Suding-Moster, Heather L. Fluorescent Measurement of TNS Binding to Calmodulin: A Biochemistry Laboratory Experiment. March, 275.
Buccigross, Jeanne M.; Hayes II, Jerry W.; Metz, Christa S. Isolation and Purification of Calmodulin from Bovine Brain: A Biochemistry Experiment. March, 273.
Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.
Deal, S. Todd; Pope, Sandi R. Improved End Point Detection in the Redox Titration of Vitamin C in Green Peppers. June, 547.
Dods, Richard F. A Problem-Based Learning Design for Teaching Biochemistry. March, 225.
Harris, Mary. A Simulated Growth Hormone Analysis. (F&R) August, 735.
Hawcroft, David M. The Synthesis of Proteins—A Simple Experiment To Show the Procedures and Problems of Using Radioisotopes in Biochemical Studies. November, 1030.
Helliwell, S.; Harden, T. J. Bacterial Toxicity Assessment Using Resazurin Reduction Kinetics: An Undergraduate Toxicity Experiment for the Chemistry-Biology Major. April, 368.
Henderleiter, Julie A.; Hyslop, Richard M. The Analysis of Riboflavin in Urine Using Fluorescence. June, 563.
Jacobsen, Erica Bode; Jacobsen, Jerrold J.; Wright, J. Monty. HIV-1 Protease: An Enzyme at Work. (JCE: Software) January, 63.
Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. February, 184.
Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. (Corrections) April, 382.
Letkeman, Peter. Computer-Modelling of Metal Speciation in Human Blood Serum. (CS #182) February, 165.
Malerich, Charles J. A Microscale Conductance Assay of Total Electrolyte Concentration in Animal Tissue. (ML) June, A127.
Morgan, Chad; Moir, Neil. Rapid Microscale Isolation and Purification of Yeast Alcohol Dehydrogenase Using Cibacron Blue Affinity Chromatography. (ML) November, 1040.
Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.
Ochiai, Ei-Ichiro. CO, N_2, NO, and O_2—Their Bioinorganic Chemistry: Principles and Applications in Bioinorganic Chemistry-VIII. February, 130.
Petersen, Quentin R. The Use of a "Qual" Centrifuge for Greatly Simplifying and Speeding the Study of Milk. September, 848.
Poiré, C.; Rabiller, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Rhodes, Gale. The Well-Read Biochemist. August, 732.
Rogers, Paul W. A Simplified Procedure for Dipeptide Sequence Analysis in the Undergraduate Laboratory. February, 189.
Schultz, Emeric. Provocative Opinion: Dealing with Biological Challenge. (NSF) May, 447.
Senozan, N. M.; Devore, J. A. Carbon Monoxide Poisoning: Some Surprising Aspects of the Equilibrium between Hemoglobin, Carbon Monoxide, and Oxygen. August, 767.
Steinhart, Carol. Chemistry behind the News: Sick Cows, Protein Geometry, and Politics. October, A232.
Steinhart, Carol. Conjugated Linoleic Acid—The Good News about Animal Fat. December, A302.
Thall, Edwin. When Drug Molecules Look in the Mirror. June, 481.
Walsh, Edward J. Chemistry and Biology. December A305.
Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.
Wolfson, Adele J.; Hall, Mona L.; Branham, Thomas R. An Integrated Biochemistry Laboratory, Including Molecular Modeling. November, 1026.

Bioorganic/Bioinorganic

Ochiai, Ei-Ichiro. CO, N_2, NO, and O_2—Their Bioinorganic Chemistry: Principles and Applications in Bioinorganic Chemistry-VIII. February, 130.

Biotechnology

Brockman, Mark; Ordman, Alfred B.; Campbell, A. Malcom. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.
Schultz, Emeric. Provocative Opinion: Dealing with Biological Challenge. (NSF) May, 447.

Bonding Theory

Drago, Russell S.; Wong, Ngai M. The Role of Electron-Density Transfer and Electronegativity in Understanding Chemical Reactivity and Bonding. February, 123.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 2: Bonding and Molecular Geometry without Orbitals-The Electron Domain Model. (FORUM) July, 622.
Ochiai, Ei-Ichiro. CO, N_2, NO, and O_2—Their Bioinorganic Chemistry: Principles and Applications in Bioinorganic Chemistry-VIII. February, 130.
Tudela, David. Infrared Spectroscopy and Bond Strengths. (LTE) December, A297.

Bromine

Schatz, Paul F. Bromination of Acetanilide. March, 267.

Caffeine

Adam, D. J.; Mainwaring, J.; Quigley, Michael N. Soxhlet Extraction of Caffeine from Beverage Plants. December, 1171.
Conte, Eric D.; Barry, Eugene F.; Rubinstein, Harry. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An

Experiment for the Undergraduate Analytical Laboratory. December, 1169.
Hampp, Andreas. The Extraction of Caffeine from Tea: A Modification of the Procedure of Murray and Hansen. December, 1172.
Onami, Tetsuo; Kanazawa, Hitoshi. A Simple Method for Isolation of Caffeine from Black Tea Leaves: Use of a Dichloromethane-Alkaline Water Mixture as an Extractant. June, 556.

Calorimetry

Felder, Richard M. Active-Inductive-Cooperative Learning: An Instructional Model for Chemistry? September, 832.
Sparberg, Esther B. Hindsight and the History of Chemistry. March, 199.

Calvin, Melvin

Kauffman, George B.; Mayo, Isaac. Multidisciplinary Scientist—Melvin Calvin: His Life and Work. May, 412.

Carbenes

Snyder, Donald M. Olefin Metathesis Polymerization: The Unexpected Role of Carbenoid Species in Formation of Macromolecules. February, 155.

Carbohydrates

Charonnat, Jeffrey A.; Steinberg, Cathleen S. Microscale Synthesis of 2,3:5,6-Di-*O*-isopropylidene-α-D-mannofuranose ("Diacetone Mannose"). (ML) August, A170.

Carbon

Crumpton, D. M.; Laitinen, R. A.; Smieja, J.; Cleary, D. A. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.

Carbon Dioxide

Crossno, S. K.; Kalbus, L. H.; Kalbus, G. E. Determinations of Carbon Dioxide by Titration: New Experiments for General, Physical, and Quantitative Analysis Courses. February, 175.
Lieu, Van T. A Simple Experiment for Demonstration of Phase Diagram of Carbon Dioxide. (TD) September, 837.

Carbon Monoxide

Mina-Camilde, Nairmen; Manzanares I., Carlos; Caballero, Julio F. Molecular Constants of Carbon Monoxide at $v = 0$, 1, 2, and 3: A Vibrational Spectroscopy Experiment in Physical Chemistry. August, 804.
Senozan, N. M.; Devore, J. A. Carbon Monoxide Poisoning: Some Surprising Aspects of the Equilibrium between Hemoglobin, Carbon Monoxide, and Oxygen. August, 767.

Catalysis

Amsterdamsky, Claude. Phase Transfer Catalysis Applied to Oxidation. January, 92.
Conklin, Jr., Alfred R.; Kessinger, Angela. Demonstration of the Catalytic Decomposition of Hydrogen Peroxide. (TD) September, 838.
Poiré, C.; Rabiller, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.

Chemical Education Research

Beasley, Warren. Reforming the Visions of High School Chemistry: A Perspective from "Down Under". April, 344.
Crosby, G. A. Implications of the National Science Education Standards for Higher Education. September, A200.
Delaware, Dana L.; Fountain, K. R. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.
Harpp, David N.; Horgan, James J.; Jennings, James S. Crime in the Classroom: Part II. An Update. April, 349.
Kirkwood, Valda; Symington, David. Lecturer Perceptions of Student Difficulties in a First-Year Chemistry Course. April, 339.
Kogut, Leonard S. Using Quality Circles in General Chemistry. (FORUM) February, 146.
Kogut, Leonard S. Critical Thinking in General Chemistry. March, 218.
Kovács-Hadady, Katalin; Fábián, István. Are They Really Sloppy? A Comparative Analysis of Student Performance in the Laboratory. May, 461.
Lagowski, J. J. The Education Summit; A Different Signal. (Editorial) May, 383.
Lin, Qun; Kirsch, Paul; Turner, Ralph. Numeric and Conceptual Understanding of General Chemistry at a Minority Institution. October, 1003.
Maroto, Beatriz; Camusso, Celso. Assessment of Knowledge Acquired in an Organic Chemistry Course. March, 231.
Nakhleh, Mary B.; Lowrey, Kirsten A.; Mitchell, Richard C. Narrowing the Gap between Concepts and Algorithms in Freshman Chemistry. August, 758.
Ogude, N. A.; Bradley, J. D. Electrode Processes and Aspects Relating to Cell EMF, Current, and Cell Components in Operating Electrochemical Cells: Precollege and College Student Interpretation. December, 1145.
Phelps, Amy J. Teaching to Enhance Problem Solving: It's More than the Numbers. April, 301.
Regis, Alberto; Albertazzi, Pier Giorgio; Roletto, Ezio. Concept Maps in Chemistry Education. November, 1084.
Robinson, William R. A View of the Science Education Research Literature. September, A191.
Sanger, Michael J.; Greenbowe, Thomas J. Provocative Opinion: Science-Technology-Society (STS) and ChemCom Courses Versus College Chemistry Courses: Is There a Mismatch? (PO) June, 532.
Scimone, Anthony; Scimone, Angelina A. The Importance of Undergraduate General and Organic Chemistry to the Study of Biochemistry in Medical School. December, 1153.
Smith, Kimberly Jo; Metz, Patricia A. Evaluating Student Understanding of Solution Chemistry through Microscopic Representations. March, 233.
Spain, James D. Electronic Homework: Computer-Interactive Problem Sets for General Chemistry. March, 222.
Spencer, Harry E. Mathematical SAT Test Scores and College Chemistry Grades. December, 1150.
Sweeney Judd, Carolyn. News from On-Line. September, A195.
Treadway, Jr., William J. The Multimedia Chemistry Laboratory: Perception and Performance. (CS #189) September, 876.
Zare, Richard N. National Science Board. Where's the Chemistry in Science Museums. September, A198.

Chemical Engineering

Felder, Richard M. Active-Inductive-Cooperative Learning: An Instructional Model for Chemistry? September, 832.
Kenkel, John. Chemistry Education at the 2-Year Colleges—What's New? Part 2. November, A272.
Mukesh, D. Applications of Neural Computing for Process Chemists: I. Introduction to Neural Network. (CS #185) May, 431.
Mukesh, D. Applications of Neural Computing for Process Chemists: II. Examples. (CS #186) June, 518.

Chemical Information

Barmettler, Peter. Biochemical Data on the Web. (CS #186) June, 520.
Berka, Karen M.; Berka, Ladislav H. Developing Student Speaking Skills: A Project/Independent Study in Forensic Science. October, 931.
Burness, James H. A General Chemistry Final Exam Based on the Chemical Literature. December, 1120.
Cohen, Paul S.; Cohen, Stephen M. Wöhler's Synthesis of Urea: How Do the Textbooks Report It? (TF) September, 883.
Dobrev, Alexandre A. "Course Thesis" as End of the Laboratory Experimental Program. September, 856.
Holmes, Colette O.; Warden, Joseph T. ClStudio: A Worldwide Web-Based, Interactive Chemical Information Course. (CII) April, 325.
Hönig, Helmut. Four Programs for Windows: Abstract of Volume 4D, Number 2: HIPPO-CNMRS: Highly Improved Prediction Program of Carbon Nuclear Magnetic Resonance Shifts. (JCE: Software) November, 1078.
Luckenbaugh, Raymond W. Undergraduate Organic Chemistry Laboratory Safety. November, 1083.
Mabrouk, Patricia Ann. Planning a Day at PITTCON: An Introduction to Current Trends in Analytical Research for Undergraduates. (TCI) February, A23.
Mosher, Michael D. A Chemical Genealogy Assignment. December, 1119.
Mounts, Richard D. Chemistry on the Web. (CS #181) January, 68.
Ordman, Alfred B. Scientific Literature and Literacy: A Course of Practical Skills for Undergraduate Science Majors. August, 753.
Russell, Douglas K. The Boltzmann Distribution. (TF) April, 299.
Schatz, Paul F. Selected Articles from Education in Chemistry. September, A192.
Stevens, Karen E.; Stevens, Richard E. Use of the World Wide Web in Lower-Division Chemistry Courses. October, 923.
Stucke, Ann; Gannaway, Susan P. New Literature Suggests that We Don't Have To Teach Everything in the Textbook. (TP) August, 773.

Chromatography

Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Anwar, Jamil; Nagra, Saeed Ahmad; Nagi, Mehnaz. Thin-Layer Chromatography: Four Simple Activities for Undergraduate Students. October, 977.
Bedell, Brooke L.; Crouch, R. David; Holden, Michael S.; Martinson, Heidi E. A Glycosidation Reaction Employing Montmorillonite K-10 as Catalyst. (ML) November, 1041.
Bello, M. A.; González, A. Gustavo. Determination of Phosphate in Cola Beverages Using Nonsuppressed Ion Chromatography: An Experiment Introducing Ion Chromatography for Quantitative Analysis. December, 1174.
Brazdil, Linda C. Oxygenates in Gasoline: A Versatile Experiment Using Gas Chroma-

tography. November, 1056.
Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.
Elderd, Dianne M.; Kildahl, Nicholas K.; Berka, Ladislav H. Experiments for Modern Introductory Chemistry: Identification of Arson Accelerants by Gas Chromatography. July, 675.
Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.
Johnson, Steven D. An Empirical Formula from Ion Exchange Chromatography and Colorimetry. December, 1179.
Kegley, Susan E.; Hansen, Kristen J.; Cunningham, Kevin L. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.
Kostecka, Keith S.; Lerman, Zafra M.; Angelos, Sanford A. Use of Gas Chromatography—Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.
Krause, Josef G. Containment of Spray Reagents in TLC Spot Detection. October, 979.
Lederer, M.; Leipzig-Pagani, E. Thin-Layer Chromatography Experiments That Illustrate General Problems in Chromatography. October, 974.
Lee, Albert W. M.; Zengpei, Zhong. Staining TLC Plate Using a Cotton Ball. April, 358.
Levine, Samuel G. Dip Reagents for Visualization in TLC. (ML) January, A4.
Levine, Samuel G. TLC Developing Chamber for Screening Column Chromatography Fractions. January, 77.
Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Chromatographic Separation of Phosphoric Acid from Cola Beverages. December, 1172.
Marriott, Philip J.; Carpenter, Peter D. Capillary Gas Chromatography Injection: An Exercise for Students of Instrumental Analysis. January, 96.
McGoran, Ernest C.; Melton, Cameron; Taitch, Darren. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.
Morgan, Chad; Moir, Neil. Rapid Microscale Isolation and Purification of Yeast Alcohol Dehydrogenase Using Cibacron Blue Affinity Chromatography. (ML) November, 1040.
Ortega, Fernando; Velez, Ernesto; Somanathan, Ratnassamy. The Modern Student Laboratory: Chromatography Synthesis and Use of Reverse-Phase Silica Gel for HPLC in Undergraduate Chemistry. (MODLAB) February, A26.
Parcher, Jon F.; Yun, Kwang S. Gas Chromatographic Measurement of Void Volume and Mobile Phase Volume: Illustration of the Concepts of Excess and Total Adsorption. September, 894.
Rogers, Paul W. A Simplified Procedure for Dipeptide Sequence Analysis in the Undergraduate Laboratory. February, 189.
Snow, Nicholas H. Determination of Free-Energy Relationships Using Gas Chromatography. June, 592.
Sproch, Norman; Begin, Kelly J.; Morris, Robert J. The Modern Student Laboratory: Chromatography: An LC/Particle Beam/MS Experiment for Undergraduates. (MODLAB) February, A33.
Sullins, D. W.; Denton, T. T.; Eisenbraun, E. J. Soxhlet Apparatus and Chromatography Columns Combined. April, 380.

Computational Chemistry

Bakalbassis, E. G.; Stiakaki, M.-A. D.; Tsipis, A. C.; Tsipis, C. A. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.
Bigger, Stephen W.; Craig, Robert A. Monte Carlo Approach to Generating the Probability-Distribution Function of a Classical Harmonic Oscillator. (CS #188) August, 724.
Comba, Peter; Zimmer, Marc. Inorganic Molecular Mechanics. February, 108.
Delaware, Dana L.; Fountain, K. R. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.
Hoffmann, Roald. Teach To Search: ACS 1996 Pimentel Award. September, A202.
Lehman, Jeffrey J.; Goldstein, Elisheva. The Potential Energy Surface of ClF_3. November, 1096.
Letkeman, Peter. Computer-Modelling of Metal Speciation in Human Blood Serum. (CS #182) February, 165.
Lipkowitz, Kenny B.; Pearl, Greg M.; Robertson, Daniel H.; Schultz, Franklin A. Computational Chemistry for the Inorganic Curriculum. February, 105.
Melrose, Melvyn P.; Scerri, Eric R. Why the 4*s* Orbital Is Occupied before the 3*d*. June, 498.
Mukesh, D. Applications of Neural Computing for Process Chemists: I. Introduction to Neural Network. (CS #185) May, 431.
Mukesh, D. Applications of Neural Computing for Process Chemists: II. Examples. (CS #186) June, 518.
Novak, Igor. Chemical Enumeration with Mathematica. February, 120.
Novak, Igor. Chemical Enumeration with Mathematica. (Corrections) August, 737.
Reid, Brian P. Determining Intermolecular Potentials from Second Virial Coefficients. (CS #187) July, 612.
Sauers, Ronald R. Steric Attraction: The Far Side. February, 114.
Subramaniam, R.; Goh, N. K.; Chia, L. S. On the Masses of the Fundamental Particles in the Bound State. July, 663.
Williams, Darren L.; Minarik, Phillip R.; Nibler, Joseph W. PC Calculations Using Gaussian for Windows. (CS #187) July, 608.

Computer Assisted Instruction

Bendall, Victor I. COS: Organic Reaction Drills Based Upon Collective Organic Syntheses. (JCE: Software) April, 323.
Bigger, Stephen W.; Craig, Robert A. Monte Carlo Approach to Generating the Probability-Distribution Function of a Classical Harmonic Oscillator. (CS #188) August, 724.
Billo, E. Joseph. Displaying Chemical Formulas in Microsoft Excel. (CBB) February, A40.
Blackman, Adrian J. Four Programs for Windows: Abstract of Volume 4D, Number 2: SPECPNMR: A Proton NMR Slide Show. (JCE: Software) November, 1078.
Blackman, Adrian J. A Pedagogical Approach to Qualitative Organic Analysis: Simulating the Integration of Wet Tests Spectroscopy and Common Sense. (CS #185) May, 434.
Bragin, Victoria M. Interactive Computer Visualization in the Introductory Chemistry Curriculum. (NSF) August, 747.
Brooks, David W. Square Roots of Negative Numbers. (LTE) May, 478.
Childs, Scott L.; Hagen, Karl S. The Inorganic Illustrator: A 3-D Graphical Supplement for Inorganic and Bioinorganic Chemistry Courses Distributed on CD-ROM. (NSF) October, 917.
Clark, Roy W. The Microwave Oven Syndrome. (LTE) March, 286.
Coleman, William F. Curve Fitting: An Alternative Approach to Analyzing Kinetic Data in Introductory Chemistry. (CS #183) March, 243.
Crouch, R. David; Holden, Michael S.; Samet, Cindy. CAChe Molecular Modeling: A Visualization Tool Early in the Undergraduate Chemistry Curriculum. (NSF) October, 916.
Delaware, Dana L.; Fountain, K. R. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.
Demirbas, Erhan; Devonshire, Robin. A Computer Experiment in Physical Chemistry: Linear Dichroism in Nematic Liquid Crystals. June, 586.
Dharmasiri, Kuruppu A. N.; Davenport, Michael; Regentin, Curtis M.; Holland, Jack F.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.
Drew, Steven M. Integration of National Instruments' LabVIEW Software into the Chemistry Curriculum. December, 1107.
Duffy, Stephen J.; vanLoon, Gary W. Interfacing Techniques for Instrumental Analysis: An Exercise. (CS #184) April, 318
Gammon, Steven D. Four Programs for Windows: Abstract of Volume 4D, Number 2: PSL Photometer. (JCE: Software) November, 1077.
Glasser, Lesile; Bradley, John D.; Brink, George; van Zyl, Pam. CAI for Chemistry. (JCE: Software) April, 323.
Goodrich, James; Durham, Bill. Interfacing "8088" Computers in the Chemistry Laboratory. (CBB) June, A131.
Gostowski, Rudy. Teaching Analytical Instrument Design with LabVIEW. December, 1103.
Grossman, William E. L. QUNLAB: A Program for the Quantitative Analysis Laboratory. (CS #187) July, 611.
Guzmán, Miguel; Ortega, Pedro; Vera, Leonel. A Computer Calculation Method in Chemical Kinetics. (CS #190) October, 921.
Hansen, John C. The Iodide-Catalyzed Decomposition of Hydrogen Peroxide: A Simple Computer-Interfaced Kinetics Experiment for General Chemistry. (CS #188) August, 728.
Hansen, John C. Schrödinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation.. (JCE: Software) June, 523.
Hansen, John C. . Schröedinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation. (JCE: Software) October, 924.
Hauck, Christian. An Excel 4.0 Add-in Function To Calculate Molecular Mass. (CS #185) May, 433.
Hernlem, Bradley J. A Versatile and Economical Automated Titration Apparatus. (CS #189) September, 878.
Hönig, Helmut. Four Programs for Windows: Abstract of Volume 4D, Number 2: HIPPO-CNMRS: Highly Improved Prediction Program of Carbon Nuclear Magnetic Resonance Shifts. (JCE: Software) November, 1078.

JCE: Online. Nonprint Resourses of the *Journal* http://jchemed.chem.wisc.edu/. (JCE: Software) May, 436.
Kim, Jae Hyun. Four Programs for Windows: Abstract of Volume 4D, Number 2: Alkanes in Motion. (JCE: Software) November, 1079.
Lee, Albert W.M.; Leung, K.M.; Kwong, Daniel W.J.; Chan, C.L. Symmetry Elements and Operations. (JCE: Software) October, 924.
Letkeman, Peter. Computer-Modelling of Metal Speciation in Human Blood Serum. (CS #182) February, 165.
Martin, John S. SIRs: Simulations and Interactive Resources, III. (JCE: Software) August, 722.
Masson, Bernard L. X-ray Powder Diffraction Simulation with a Microcomputer. (CS #190) October, 918.
McNaught, Ian J.; Moore, Rory. Winspec: A Microwave Spectroscopy Tutor. (JCE: Software) June, 523.
Moseley, Charles G. An Improved Microsoft Excel Grade Book. January, 62.
Mounts, Richard D. Chemistry on the Web. (CS #181) January, 68.
Mullin, Jerome; Courtney, Pamela. Using Inexpensive "Find & Circle" Word Search Software in the Study of Chemical Nomenclature. (CBB) June, A130.
Muyskens, Mark A.; Glass, Samuel V.; Wietsma, Thomas W.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.
Novak, Igor. Chemical Enumeration with Mathematica. February, 120.
Novak, Igor. Chemical Enumeration with Mathematica. (Corrections) August, 737.
Ogren, Paul J.; Jones, Thomas P. Laboratory Interfacing Using the LabVIEW Software Package. (CBB) December, 1115.
Ophardt, Charles E. Inorganic Molecules: A Visual Data Base. (JCE: Software) March, 246.
Ortega, Pedro A.; Guzman, Miguel E.; Vera, Leonel. Useful Spreadsheet for Updating Multistep Organic Synthesis. (CS #188) August, 726.
Pharr, Christine M.; Malmberg, Barry J.; Jegla, John D.; Gammon, Steven D. PVC Photometer: Computer-Assisted Spectroscopy Experiments. (CS #183) March, 238.
Reid, Brian P. Determining Intermolecular Potentials from Second Virial Coefficients. (CS #187) July, 612.
Schnable, Joseph G.; Kowalewski, Mary S. Viewing and Printing Scientific and Math ASCII Characters on Old and New IBM Compatible Computers. (CBB) June, A130.
Scott, Jacqueline L.; Gammon, Steven D.; Cannon, John F.; Hunsberger, Lynn R. Beer's Law: A Computerized Experiment. (JCE: Software) April, 324.
Smith, Stanley; Stovall, Iris. Networked Instructional Chemistry: Using Technology To Teach Chemistry. October, 911.
Tissue, Brian M. Applying Hypermedia to Chemical Education. (CS #181) January, 65.
Tissue, Brian M.; Earp, Ronald L.; Yip, Ching-Wan; Anderson, Mark R. Development and Evaluation of Internet-Based Hypermedia Chemistry Tutorials. (NSF) May, 446.
Treadway, Jr., William J. The Multimedia Chemistry Laboratory: Perception and Performance. (CS #189) September, 876.
Vázquez-Vidal, Luis. MOLSYM: A Program on Molecular Symmetry and Group Theory. (CS #184) April, 321.
Viswanathan, R.; Lisensky, G.; Dobson, D. A. Off-the-Shelf Portable Data Acquisition: Interfacing a Serial-Port-Equipped Multimeter. (CBB) February, A41.
Williams, Howard P. Square Roots of Negative Numbers. (LTE) May, 478.

Conductivity

Bachofer, Steven J. Conductivity, a Simple Method To Probe Micellar Solutions. September, 861.
Malerich, Charles J. A Microscale Conductance Assay of Total Electrolyte Concentration in Animal Tissue. (ML) June, A127.
Scharlin, Pirketta; Cleveland, Audrey A.; Battino, Rubin; Thomas, Monica E. Glowing Veggies. (TD) May, 457.
Weimer, Peter M.; Battino, Rubin. The Incredible Glowing Pickle and Onion and Potato and... (TD) May, 456.

Conferences

Bell, Jerry A. American Association for the Advancement of Science. What is AAAS? Why Should *Journal* Readers Be Interested? September, A196.
Chen, Carol; Dyer, Jeanne Murgado; Strawbridge, Patricia B. Report: 1996 Cost-Effective, Hands-On Chemistry Education Conference. October, A236.
Cohen, Paul S.; Cohen, Brenda H. Discovering... New Orleans. March, A51.
Cohen, Paul S.; Cohen, Brenda H. Discovering... Orlando. July, A144.
Crosby, G. A. Graduate Programs in Chemistry: A Time for Innovation and Reform. October, A235.
Dev, Vasu. Report of the CACT Summer Conference. February, 148.
Division of Chemical Education Program for the 212th ACS Meeting. July, A146.
Mabrouk, Patricia Ann. Planning a Day at PITTCON: An Introduction to Current Trends in Analytical Research for Undergraduates. (TCI) February, A23.
Moore, John W. It's a Matter of Money. Or Is It? (Editorial) November, A257.
Russell, Arlene A.; Pavelich, Michael J. Faculty Rewards: Can We Implement the Scholarship of Teaching? A Summary of an Electronic Conference. November, A268.

Consumer Chemistry

Bravo-Díaz, Carlos; González-Romero, Elisa. Showing Emulsion Properties with Common Dairy Foods. September, 844.
Buchholz, Fredric L. Superabsorbent Polymers: An Idea Whose Time Has Come. (PROD) June, 512.
Carter, Henry A. The Chemistry of Paper Preservation: Part 1. The Aging of Paper and Conservation Techniques. May, 417.
Carter, Henry A. The Chemistry of Paper Preservation: Part 2. The Yellowing of Paper and Conservation Bleaching. November, 1068.
Carter, Henry A. The Chemistry of Paper Preservation Part 3. The Strengthening of Paper. December, 1160.
Dombrink, Kathleen J. A Commercial Device Involving the Breathalyzer Test Reaction. (AA) February, 135.
Donnelly, Thomas H. The Origins of the Use of Antioxidants in Foods. (PROD) February, 158.
Kerber, Robert C.; Akhtar, Mohammad J. Getting Real: A General Chemistry Laboratory Program Focusing on "Real World" Substances. (FORUM) November, 1023.
Labianca, Dominick A. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 824.
Madlung, Andreas. The Chemistry behind the Air Bag: High Tech in First-Year Chemistry. (PROD) April, 347.
Markow, Peter G. Determining the Lead Content of Paint Chips: An Introduction to AAS. February, 178.
Risley, John M. An Organoleptic Laboratory Experiment. December, 1181.
Roberts, J. L.; Selco, J. I.; Wacks, D. B. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.
Schatz, Paul F. Reports from Other Journals: Gleanings from Scientific American. October, A234.
Solomon, Sally; Hur, Chinyu; Lee, Alan; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.
Steinhart, Carol. Chemistry behind the News: Sick Cows, Protein Geometry, and Politics. October, A232.
Stewart, Daniel. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 823.
Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.
Wood, John T.; Eddy, Roberta M. What's the Shiny Stuff in Drano? (F&R) May, 463.

Coordination Chemistry

King, R. B. The Shapes of Coordination Polyhedra. October, 993.
Koubek, Edward; Elert, Mark. A Demonstration of Crystal-Field Effects in Octahedral Complexes. (TD) October, 947.
Manning, Thomas J. Approximating the Electrostatic Contribution to ΔS for Aqueous Phase Lanthanide–Aminocarboxylate Complexation. July, 661.
Smith, Derek W. Simple Treatment of the Symmetry Labels for the *d-d* States of Octahedral Complexes. June, 504.

Corrections

Kanda, N.; Asano, T.; Itoh, T.; Onoda, M. Preparing "Chameleon Balls" from Natural Plants: Simple Handmade pH Indicator and Teaching Material for Chemical Education. (Corrections) May, 425.
Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP) : An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. (Corrections) April, 382.
Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. (Corrections) November, A262.
Novak, Igor. Chemical Enumeration with Mathematica. (Corrections) August, 737.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.

Crystallography

Masson, Bernard L. X-ray Powder Diffraction Simulation with a Microcomputer. (CS #190) October, 918.

Curriculum

Amsterdamsky, Claude. Phase Transfer Catalysis Applied to Oxidation. January, 92.
Beall, H. Report on the WPI Conference "Demonstrations as a Teaching Tool in Chemistry: Pro and Con". July, 641.
Beall, Herbert. Report on the WPI Conference: General Chemistry and Materials Science: The Interrelationships. August, 756.
Beasley, Warren. Reforming the Visions of High School Chemistry: A Perspective from "Down Under". April, 344.
Berka, Karen M.; Berka, Ladislav H. Developing Student Speaking Skills: A Project/Independent Study in Forensic Science. October, 931.
Bieda, Kelly L.; Purrington, Suzanne T. The Neglected Element in Sophomore Organic Chemistry. August, 754.
Bieron, Joseph F.; McCarthy, Paul J.; Kermis,

Thomas W. A New Approach to the General Chemistry Laboratory. (FORUM) November, 1021.
Black, Suzanne L. General Chemistry Laboratory–Scientific Inquiry: 157 New Experiments in One Semester. August, 776.
Bragin, Victoria M. Interactive Computer Visualization in the Introductory Chemistry Curriculum. (NSF) August, 747.
Brockman, Mark; Ordman, Alfred B.; Campbell, A. Malcom. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.
Carpenter, D. K. A Controversy about the Gibbs Function: Introduction to the Paper Symposium. (SYM) May, 384.
Cavaleiro, Ana M. V. S. V. The Teaching of Precipitation Equilibrium: A New Approach. May, 423.
Childs, Scott L.; Hagen, Karl S. The Inorganic Illustrator: A 3-D Graphical Supplement for Inorganic and Bioinorganic Chemistry Courses Distributed on CD-ROM. (NSF) October, 917.
Craney, Chris; Mazzeo, April; Lord, Kaye. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.
Crouch, R. David; Holden, Michael S.; Samet, Cindy. CAChe Molecular Modeling: A Visualization Tool Early in the Undergraduate Chemistry Curriculum. (NSF) October, 916.
Darensbourg, Marcetta Y. Simple Techniques Can Give Pleasurable Results. November, A273.
Davies, Geoffrey. Cooperative Education: Experiential Cooperative and Study Abroad Educarion. (COOP) May, 438.
Delaware, Dana L.; Fountain, K. R. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.
Delaware, Dana L.; Freeman, R. Griff; Moody, Anne E.; Van Galen, Dean. The Freshman Chemistry Seminar. (FORUM) February, 144.
Dev, Vasu. Report of the CACT Summer Conference. February, 148.
Dobrev, Alexandre A. "Course Thesis" as End of the Laboratory Experimental Program. September, 856.
Dods, Richard F. A Problem-Based Learning Design for Teaching Biochemistry. March, 225.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 1: Electron Configurations from Experiment. (FORUM) July, 617.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 2: Bonding and Molecular Geometry without Orbitals-The Electron Domain Model. (FORUM) July, 622.
Gulden, Warren. Using Physics Principles in the Teaching of Chemistry. (VIEW) August, 771.
Guzmán, Miguel; Ortega, Pedro; Vera, Leonel. A Computer Calculation Method in Chemical Kinetics. (CS #190) October, 921.
Hansen, Lee D.; Garner, Judy L.; Wilson, Byron J.; Cluff, Coran L.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.
Hawkes, Stephen J. Strategic Consequences from Errors in Raoult's Law Paper. January, 41.
Hawkes, Stephen J. Salts are Mostly *NOT* Ionized. May, 421.
Hawkes, Stephen J. All Positive Ions Give Acid Solutions in Water. June, 516.
Hixon, Susan H.; Sears, Jr., Curtis T. Systemic Changes in the Undergraduate Chemistry Curriculum Program Award and Course and Curriculum Development Program Awards. (NSF) June, 525.
Hollis Jr., W. Gary. *Jurassic Park* as a Teaching Tool in the Chemistry Classroom. January, 61.
Huebner, Jay S.; Vergenz, Robert A.; Smith, Terry L. Astronomy Matters for Chemistry Teachers. November, 1073.
Juhl, Lorie. General Chemistry in Technical Education: Creating an Applied and Cooperative Experience. (COOP) January, 72.
Kelter, Paul B.; Jacobitz, Kathleen; Kean, Elizabeth; Hoesing, Aurietha. A Chemistry Course for Elementary Education Majors: What is Possible When the Chemistry and Education Departments See Eye to Eye. (CK) October, 933.
Kenkel, John. Chemistry Education at the 2-Year Colleges--What's New? Part 2. November, A272.
Kerber, Robert C.; Akhtar, Mohammad J. Getting Real: A General Chemistry Laboratory Program Focusing on "Real World" Substances. (FORUM) November, 1023.
Kogut, Leonard S. Using Quality Circles in General Chemistry. (FORUM) February, 146.
Kovac, Jeffrey. Scientific Ethics in Chemical Education. October, 926.
Lagowski, J. J. Departments as Agents of Change. (Editorial) July, 599.
Lagowski, J. J. A Decade of Project 2061. (Editorial) April, 287.
Lagowski, J. J. The Education Summit; A Different Signal. (Editorial) May, 383.
Lagowski, J. J. Re-Harnessing the Genie. (Editorial) June, 479.
Laing, Michael. Bring Back Equivalent Weight—*If You Want the Kids To "Think"!* November, 1007.
Leber, Phyllis A.; Szczerbicki, Sandra K. Theme-Based Bidisciplinary Chemistry Laboratory Modules. (NSF) December, 1130.
Lipkowitz, Kenny B.; Pearl, Greg M.; Robertson, Daniel H.; Schultz, Franklin A. Computational Chemistry for the Inorganic Curriculum. February, 105.
Maier, Mary L. Polymer Science Pilot Program. July, 643.
Marín, José M. Provocative Opinion: The Sense of University Research: The Abyss between Science and Technology. (PO) March, 217.
Masson, Bernard L. X-ray Powder Diffraction Simulation with a Microcomputer. (CS #190) October, 918.
Miller, Larry L. How to Get a Research Idea and Get Someone To Pay You To Work on It. April, 332.
Moore, John W. It's a Matter of Money. Or Is It? (Editorial) November, A257.
Nakhleh, Mary B.; Lowrey, Kirsten A.; Mitchell, Richard C. Narrowing the Gap between Concepts and Algorithms in Freshman Chemistry. August, 758.
Nocera, Daniel G.; Harrison, James F.; Reed, Dorothy A.; Roberts, Charles H. Enhanced Performance in Chemistry by Minorities at the University Level: A Comprehensive Program. December, 1131.
Noyes, Richard M. A Controversy about the Gibbs Function: Applications of the Gibbs Function to Chemical Systems and Subsystems. (SYM) May, 404.
Ochs, Raymond S. Thermodynamics and Spontaneity. October, 952.
Okumura, Mitchio; Beauchamp, Jesse L.; Dickert, Jeffrey M.; Easy, Blair R.; Claypool, Christopher L. Undergraduate Laboratory for Surface Science. (NSF) February, 142.
Ordman, Alfred B. Scientific Literature and Literacy: A Course of Practical Skills for Undergraduate Science Majors. August, 753.
Pine, Stanley H. The Society Committee on Education. November, A275.
Pojman, John A.; West, William W. A Unified Physical Chemistry Laboratory Based on Oscillating Reactions and Traveling Fronts. (NSF) January, 35.
Rettich, T. R.; Bailey, David N.; Frank, Forrest J.; Frick, Jeffrey A. An Integrated Curriculum for First- and Second-Year Chemistry Courses. (NSF) July, 638.
Rhodes, Gale. The Well-Read Biochemist. August, 732.
Roberts, J. L.; Selco, J. I.; Wacks, D. B. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.
Russell, Douglas K. The Boltzmann Distribution. (TF) April, 299.
Sanger, Michael J.; Greenbowe, Thomas J. Provocative Opinion: Science-Technology-Society (STS) and ChemCom Courses Versus College Chemistry Courses: Is There a Mismatch? (PO) June, 532.
Schomaker, Verner; Waser, Jurg. A Controversy about the Gibbs Function: Global Thermodynamics of Systems That Include Stressed Solids. (SYM) May, 386.
Schultz, Emeric. Provocative Opinion: Dealing with Biological Challenge. (NSF) May, 447.
Scimone, Anthony; Scimone, Angelina A. The Importance of Undergraduate General and Organic Chemistry to the Study of Biochemistry in Medical School. December, 1153.
Smith, Stanley; Stovall, Iris. Networked Instructional Chemistry: Using Technology To Teach Chemistry. October, 911.
Snyder, Donald M. Olefin Metathesis Polymerization: The Unexpected Role of Carbenoid Species in Formation of Macromolecules. February, 155.
Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 3: Ionization Energies, Electronegativity, Polar Bonds and Partial Charges. (FORUM) July, 627.
Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 4: An Approach to Reaction Thermodynamics through Enthalpies, Entropies, and Free Energies of Atomization. (FORUM) July, 631.
Stevens, Karen E.; Stevens, Richard E. Use of the World Wide Web in Lower-Division Chemistry Courses. October, 923.
Stucke, Ann; Gannaway, Susan P. New Literature Suggests that We Don't Have To Teach Everything in the Textbook. (TP) August, 773.
Sutter, Dieter H. Free Enthalpy, Lagrange Multipliers, and Thermal Expansion: A Possibly Novel Way To Derive the Law of Mass Action. August, 718.
Swartz, James E.; Schladetzky, Kurt. Experimental Illustration of the Utility of Lewis Structures: An FTIR Experiment for Introductory Chemistry. February, 188.
Tidwell, Thomas T. The Electrophilic Addition to Alkynes Revisited. November, 1081.
Tirri, Lawrence; Manning, Bradford; Johnson, Brian J. Development and Evaluation of a Program of Study in Hazardous Materials Management. April, 351.
Trumbore, Conrad N.; Bevenour, Julie; Scantlebury, Kathryn. Chemistry and the Human Environment: A Course for Non-Science Majors. November, 1012.
Tykodi, R. J. A Controversy about the Gibbs Function: The Gibbs Function; Spontaneity and Walls. (SYM) May, 398.
Weiss, Hilton M. Further Comments upon the Electrophilic Addition to Alkynes: A Response to Criticism from Professor Thomas T. Tidwell. November, 1082.
Wojciechowski, Brenda J.; Deal, S. Todd. From Lecture Hall to the Laboratory: The Pinacol Rearrangement: Fostering Problem Solving Abilities and Critical Thinking Skills of the Organic Chemistry Student. January, 85.

Wood, Scott E.; Battino, Rubin. The Gibbs Function Controversy. (SYM) May, 408.
Wright, John C. Authentic Learning Environment in Analytical Chemistry Using Cooperative Methods and Open-Ended Laboratories in Large Lecture Courses. September, 827.
Wruck, Betty J. Reinforcing Net Ionic Equation Writing: Second Semester. February, 149.
Zumdahl, Susan Arena. Mission Impossible? Improving Retention of Science Majors among Minorities and Women. November, A266.

Demonstrations

Anderson, Michael; Buckley, Amy. Equilibrium Constants You Can Smell. (TD) July, 639.
Beall, H. Report on the WPI Conference "Demonstrations as a Teaching Tool in Chemistry: Pro and Con". July, 641.
Berger, Tomás G.; Mellon, Edward K. A Multistep Equilibria-Redox-Complexation Demonstration To Illustrate Le Châtelier's Principle. (TD) August, 783.
Bettis, Cliff; Lyons, Edward J.; Brooks, David W. Illustrating Fourier Transforms. September, 839.
Brouwer, Henry. Work Done by a Chemical Reaction. (TD) April, 354.
Brożek, Celestyn M. Simple and Attractive Demonstration of the Reversibility of Chemical Reactions. (TD) September, 837.
Conklin, Jr., Alfred R.; Kessinger, Angela. Demonstration of the Catalytic Decomposition of Hydrogen Peroxide. (TD) September, 838.
Dalby, David K. Bigger and Brighter Flame Tests. (TD) January, 80.
Davis, Lawrence C. Diffusion Confusion. (LTE) August, 824.
Deese, William; Washburn, Anna Marie. Relative Rates of Effusion through Punctured Balloons. (TD) June, 540.
DeLorenzo, Ronald. Egg in the Bottle. (LTE) September, A188.
Dombrink, Kathleen J. A Commercial Device Involving the Breathalyzer Test Reaction. (AA) February, 135.
Driscoll, Jerry A. Visible Ion Exchange Demonstration for Large or Small Lecture Halls. (TD) July, 640.
Gesser, H. D. The Bobbing (Drinking) Bird. April, 355.
Hall, Michael R.; Battino, Rubin. Making an Inexpensive Tesla Coil from a Car Coil. August, 817.
Iyere, Peter Abeta. Reduction of Viologen Bisphosphate Dihalide with Aluminum Foil. (OP) May, 455.
Kelter, Paul B.; Carr, James D.; Johnson, Tanya; Castro-Acuña, Carlos Mauricio. The Chemical and Educational Appeal of the Orange Juice Clock. (TD) December, 1123.
Kolb, Doris. Egg in the Bottle. (LTE) September, A189.
Koubek, Edward; Elert, Mark. A Demonstration of Crystal-Field Effects in Octahedral Complexes. (TD) October, 947.
Krause, Paul; Manion, Jerry. A Novel Approach to Teaching Electrochemical Principles. (TD) April, 354.
Lei, Lixu; Yao, Xuebin; Xin, Xinquan. Classroom Demonstration of Solid State Reaction at Room Temperature. (TD) November, 1018.
Li, Jin; Dai, Le-Sui; You, Li-Shu. A Modified Demonstration of the Activation Energy Concept. (TD) October, 948.
Lieu, Van T. A Simple Experiment for Demonstration of Phase Diagram of Carbon Dioxide. (TD) September, 837.
Mazzacco, Charles J. The Effect of Solvent and Micelles on the Rate of Excited-State Deprotonation. (TD) March, 254.
Mitchell, Richard S. Iodine Clock Reaction. (TD) August, 783.
Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.
Pravia, Katia; Maynard, David F. Why Don't Water and Oil Mix? (OP) June, 497.
Ramachandraiah, Allikayala. A No-Cost Model of Liquid Structure. (AA) January, 59.
Scharlin, Pirketta; Cleveland, Audrey A.; Battino, Rubin; Thomas, Monica E. Glowing Veggies. (TD) May, 457.
Schreckenbach, Joachim P.; Rabending, Klaus. Demonstration of the Plasma State. (TD) August, 782.
Solomon, Sally; Hur, Chinhyu; Lee, Alan. Diffusion Rate on the Overhead Projector: Amines Compared to HCl. (OP) January, 81.
Stick, Robert V.; Mocerino, Mauro. Sodium Chloride Revisited. (TD) June, 539.
Stick, Robert V.; Mocerino, Mauro. Azo Dyes. (TD) June, 540.
Thomas, Eugene. Laser Pointer and the Tyndall Effect. May, 470.
Tóth, Zoltán. A Demonstration of Wohler's Experiment: Preparation of Urea from Ammonium Chloride and Potassium Cyanate. (TD) June, 539.
Vemulapalli, G. K.; Kukolich, S. G. Why Does a Stream of Water Deflect in an Electric Field? September, 887.
Vitz, Ed; Binning, Robert. Inexpensive Exemplars for the Wave Model of Electronic Structure and Light. (TD) February, 171.
Waldman, Amy Sue; Schechinger, Linda; Nowick, James S. A Coordinated Chemistry Outreach Program for Thousands of High School Students. August, 762.
Weaver, Gabriela C.; Kimbrough, Doris R. Colorful Kinetics. (OP) March, 256.
Weimer, Peter M.; Battino, Rubin. The Incredible Glowing Pickle and Onion and Potato and... (TD) May, 456.
Winder, Edmund J.; Ellis, Arthur B.; Lisensky, George C. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.
Wright, Stephen W. An Improved Container for Solutions of Yellow Phosphorus. August, 818.
Zarzycki, Pawel K.; Lamparczyk, Henryk. A Simple Experiment Demonstrating the Temperature Effect in Supramolecular Chemistry. (TD) May, 459.
Zhou, Rei E. How To Offer the Optimal Demonstration of the Electroysis of Water. August, 786.

Diffusion

Davis, Lawrence C. Diffusion Confusion. (LTE) August, 824.
Solomon, Sally; Hur, Chinhyu; Lee, Alan. Diffusion Rate on the Overhead Projector: Amines Compared to HCl. (OP) January, 81.

Drugs/Pharmaceuticals

Labianca, Dominick A. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 824.
Nuhrich, Alain; Varache-Lembège, Martine; Lacan, Fabrice; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.
Schatz, Paul F. Reports from Other Journals: Gleanings from Scientific American. October, A234.
Sen, Stephanie E.; Aniker, Keith S. ^{1}H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.
Solomon, Sally; Hur, Chinyu; Lee, Alan; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.
Stewart, Daniel. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 823.
Thall, Edwin. When Drug Molecules Look in the Mirror. June, 481.
Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.

Dyes

Barceló, A. Ros; Zapata, J. M. Measurement of Quantum Yield, Quantum Requirement, and Energetic Efficiency of the O_2-Evolving System of Photosynthesis by a Simple Dye Reaction. November, 1034.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.
Stick, Robert V.; Mocerino, Mauro. Azo Dyes. (TD) June, 540.
Taber, Douglass F.; Meagley, Robert P.; Supplee, Danielle. A Colorful Grignard Reaction: Preparation of the Triarylmethane Dyes from 4-Bromo-N,N-Dimethylaniline. March, 259.

Editorial

Lagowski, J. J. Rethinking the PhD: A New Social Contract. (Editorial) January, 1.
Lagowski, J. J. The Role of Academic Science. (Editorial) February, 103.
Lagowski, J. J. Graduate Education: The New Covenant. (Editorial) March, 197.
Lagowski, J. J. A Decade of Project 2061. (Editorial) April, 287.
Lagowski, J. J. The Education Summit; A Different Signal. (Editorial) May, 383.
Lagowski, J. J. Re-Harnessing the Genie. (Editorial) June, 479.
Lagowski, J. J. Departments as Agents of Change. (Editorial) July, 599.
Lagowski, J. J. A Valedictory: "No man is an Iland, intire of it selfe.". (Editorial) August, 695.
Moore, John W. Coalescing the Chemical Education Community. (Editorial) September, A185.
Moore, John W. Why Don't You Write It Up for the *Journal*? (Editorial) October, A223.
Moore, John W. It's a Matter of Money. Or Is It? (Editorial) November, A257.
Moore, John W. Editorial: They Didn't Teach Me Anything, But I Learned a Lot. (Editorial) December, A291

Electrochemistry

Anderson, Guy E. Small Scale Electrolytic Cells. (ML) August, A172.
Bausch, Rainer. Osmotic Pressue and Electrochemical Potential. (LTE) December, A294.

Cooke, Ron C.; Willis, Grover C. Which E° Is it? The Story of a Student Discovery. (CP) May, 450.
DeKock , Roger L. Tendency of Reaction, Electrochemistry, and Units. October, 955.
Dobrzynski, Edward D. Voltaic Cell Measurements on a Spot Plate with a Cotton Swab Bridge. (ML) January, A6.
García-Armada, Pilar; Losada, José; de Vicente-Pérez, Santiago. Cation Analysis Scheme by Differential Pulse Polarography. June, 544.
Inzelt, György. Osmotic Preasue and Electrochemical Potential. (LTE) December, A294.
Kelter, Paul B.; Carr, James D.; Johnson, Tanya; Castro-Acuña, Carlos Mauricio. The Chemical and Educational Appeal of the Orange Juice Clock. (TD) December, 1123.
Kovács-Hadady, Katalin; Fábián, István. Are They Really Sloppy? A Comparative Analysis of Student Performance in the Laboratory. May, 461.
Krause, Paul; Manion, Jerry. A Novel Approach to Teaching Electrochemical Principles. (TD) April, 354.
LeRoux, Xavier; Ottewill, Gerry A.; Walsh, Frank C. The Comparative Performance of Batteries: The Lead–Acid and the Aluminum–Air Cells. August, 811.
Millet, Pierre. Electric Potential Distribution in an Electrochemical Cell. October, 956.
Ogude, N. A.; J. D. Bradley. Electrode Processes and Aspects Relating to Cell EMF, Current, and Cell Components in Operating Electrochemical Cells: Precollege and College Student Interpretation. December, 1145.
Pinto, Gabriel. Testing the Electrical Resistivity of Wax and Copper Composites. July, 683.
Probst, Donald A.; Henderson, Giles. Zinc Electrodes and the Thermodynamics of a Galvanic Cell. October, 962.
Saieed, Alfred E.; Davies, Keith M. A Simple Method for Determining the Temperature Coefficient of Voltaic Cell Voltage. (F&R) October, 959.
Schreckenbach, Joachim P.; Rabending, Klaus. Demonstration of the Plasma State. (TD) August, 782.
Sharma, Brahama D. Myths about pH and pH Meters. (LTE) June, 598.
Swim, James; Earps, Edward; Reed, Laura M.; Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.
Torres, Luz María; Gil, Adrián F.; Galicia, Laura; González, Ignacio. Understanding the Difference between Inner- and Outer-Sphere Mechanisms: An Electrochemical Experiment. August, 808.
Wang, Joseph; Maccà, Carlo. Use of Blood-Glucose Test Strips for Introducing Enzyme Electrodes and Modern Biosensors. August, 797.
Zhou, Rei E. How To Offer the Optimal Demonstration of the Electroysis of Water. August, 786.

Electrophoresis

Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.
Conte, Eric D.; Barry, Eugene F.; Rubinstein, Harry. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An Experiment for the Undergraduate Analytical Laboratory. December, 1169.

Electrospray Ionization

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.
Hofstadler, Steven A.; Bakhtiar, Ray; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part I. Instrumentation and Spectral Interpretation (CI) . April, A82.
Hop, Cornelius E. C. A.; Bakhtiar, Ray. Electrospray Ionization Mass Spectrometry: Part III: Applications in Inorganic Chemistry and Synthetic Polymer Chemistry. (TCI) August, A162.

Environmental Chemistry

Ginebreda, A. Entropy and Waste Recovery: Between Thermodynamics and Economy. August, 708.
Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.
Kegley, Susan E.; Hansen, Kristen J.; Cunningham, Kevin L. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.
Quigley, Michael N.; Vernon, Frederick. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.
Ramachandran, B. R.; Allen, John M.; Halpern, Arthur M. Air–Water Partitioning of Environmentally Important Organic Compounds: An Environmental Chemistry or Integrated Laboratory Experiment. November, 1058.
Ratna, Shashi Saxena; Upadhyay, Pramod. A Simple and Low-Cost Air Sampler. August, 787.
Rees, Thomas. Homeowner's Test for Lead in the Paint. July, 670.
Soran, Patrick D.; Neal, Everett E.; Smith, Barbara; Mullen, Ken I. On-Line Surfactant Monitoring by Foam Generation. August, 819.
Sundback, Karen A. Testing for Lead in the Environment. (F&R) July, 669.
Tirri, Lawrence; Manning, Bradford; Johnson, Brian J. Development and Evaluation of a Program of Study in Hazardous Materials Management. April, 351.

Enzymes

Jacobsen, Erica Bode; Jacobsen, Jerrold J.; Wright, J. Monty. HIV-1 Protease: An Enzyme at Work. (JCE: Software) January, 63.
McClure, Cynthia K.; Chenault, H. Keith. Chemoenzymatic Synthesis of an Enantiomerically Pure Lactone: A Three-Step Synthesis for Undergraduate Organic Chemistry Laboratory. May, 467.
Poiré, C.; Rabiller, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Wang, Joseph; Maccà, Carlo. Use of Blood-Glucose Test Strips for Introducing Enzyme Electrodes and Modern Biosensors. August, 797.
Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.

Equilibrium

Anderson, Michael; Buckley, Amy. Equilibrium Constants You Can Smell. (TD) July, 639.
Berger, Tomás G.; Mellon, Edward K. A Multistep Equilibria-Redox-Complexation Demonstration To Illustrate Le Châtelier's Principle. (TD) August, 783.
Brożek, Celestyn M. Simple and Attractive Demonstration of the Reversibility of Chemical Reactions. (TD) September, 837.
Cavaleiro, Ana M. V. S. V. The Teaching of Precipitation Equilibrium: A New Approach. May, 423.
Nash, John J.; Meyer, Jeanne A. R; Nurrenbern, Susan C. Waste Treatment in the Undergraduate Laboratory: Let the Students Do It!. December, 1183.
Senozan, N. M.; Devore, J. A. Carbon Monoxide Poisoning: Some Surprising Aspects of the Equilibrium between Hemoglobin, Carbon Monoxide, and Oxygen. August, 767.
Sutter, Dieter H. Free Enthalpy, Lagrange Multipliers, and Thermal Expansion: A Possibly Novel Way To Derive the Law of Mass Action. August, 718.

Error Analysis

Andraos, John. On the Propagation of Statistical Errors for a Function of Several Variables. February, 150.

Ethics

Coppola, Brian P.; Smith, David H. A Case for Ethics. January, 33.
Kovac, Jeffrey. Scientific Ethics in Chemical Education. October, 926.

Fluorine

Bieda, Kelly L.; Purrington, Suzanne T. The Neglected Element in Sophomore Organic Chemistry. August, 754.

Food Science

Curtright, Robert; Rynearson, James A.; Markwell, John. Anthocyanins: Model Compounds for Learning about More than pH. April, 306.
Dombrink, Kathleen J. A Commercial Device Involving the Breathalyzer Test Reaction. (AA) February, 135.
Donnelly, Thomas H. The Origins of the Use of Antioxidants in Foods. (PROD) February, 158.
Labianca, Dominick A. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 824.
Steinhart, Carol. Chemistry behind the News: Sick Cows, Protein Geometry, and Politics. October, A232.
Steinhart, Carol. Conjugated Linoleic Acid—The Good News about Animal Fat. December, A302.
Stewart, Daniel. Better Ways to Eliminate Blood-Alcohol Concentration. (LTE) August, 823.
Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.

Forensic Chemistry

Berka, Karen M.; Berka, Ladislav H. Developing Student Speaking Skills: A Project/Independent Study in Forensic Science. October, 931.
Dombrink, Kathleen J. A Commercial Device Involving the Breathalyzer Test Reaction. (AA) February, 135.
DuPre, Donald B. Blood or Taco Sauce? The Chemistry behind Criminalists' Testimony in the O. J. Simpson Murder Case. January, 60.
Elderd, Dianne M.; Kildahl, Nicholas K.; Berka, Ladislav H. Experiments for Modern Introductory Chemistry: Identification of Arson Accelerants by Gas Chromatography. July, 675.

Waddell, Thomas G.; Rybolt, Thomas R. Sherlock Holmes and the Nebulous Nitro. December, 1157.

Fourier Transform Techniques

Bettis, Cliff; Lyons, Edward J.; Brooks, David W. Illustrating Fourier Transforms. September, 839.

Free Radicals

Acheson, R. M. The Discovery of Free Radicals. January, 32.

Fullerene

Almy, John; Herrera, Antonio; Martín, Nazario; Seoane, Carlos; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro[6,5]C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.

Gases

Burness, James H. Oxygen from Hydrogen Peroxide: an Experimental Modification. (F&R) September, 851.

Deese, William; Washburn, Anna Marie. Relative Rates of Effusion through Punctured Balloons. (TD) June, 540.

DeLorenzo, Ronald. Egg in the Bottle. (LTE) September, A188.

Holmes Jr., L. H. Textbook Forum: The Solubility of Gases in Liquids. (TF) February, 143.

Hornack, Frederick M. Thermodynamics of Air: Reinterpreting the Method of Clement and Desormes. October, 965.

Kolb, Doris. Egg in the Bottle. (LTE) September, A189.

Lawrence, Barbara A.; Zanella, Andrew W. A Simple Method for Producing A Mixture of Gaseous HCl and DCl for Measuring Their Vibrational-Rotational Spectra. April, 367.

Schallies, Michale; Schnelle, Hans-Otto; Kunze, Klaus. The Use of PTFE Membranes for the Construction of Semimicroscale Gas Reactors. (ML) June, A128.

Graduate Education/Research

Brockman, Mark; Ordman, Alfred B.; Campbell, A. Malcom. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.

Crosby, G. A. Graduate Programs in Chemistry: A Time for Innovation and Reform. October, A235.

Lagowski, J. J. Rethinking the PhD: A New Social Contract. (Editorial) January, 1.

Lagowski, J. J. Graduate Education: The New Covenant. (Editorial) March, 197.

Lagowski, J. J. Re-Harnessing the Genie. (Editorial) June, 479.

Marín, José M. Provocative Opinion:The Sense of University Research: The Abyss between Science and Technology. (PO) March, 217.

Miller, Larry L. How to Get a Research Idea and Get Someone to Pay You to Work on It. April, 332.

Rosenfield, Stuart. Undergraduate Research. (LTE) October, A227.

Group Theory

McGinn, Clifford J. Stretch and Bend Modes. (LTE) March, 286.

Novak, Igor. Chemical Enumeration with Mathematica. February, 120.

Novak, Igor. Chemical Enumeration with Mathematica. (Corrections) August, 737.

Vázquez-Vidal, Luis. MOLSYM: A Program on Molecular Symmetry and Group Theory. (CS #184) April, 321.

Hiller, Jr., Lejaran A.

Wamser, Christian; Wamser, Carl C. Lejaren A. Hiller, Jr.: A Memorial Tribute to a Chemist–Composer. July, 601.

History/Philosophy

Acheson, R. M. The Discovery of Free Radicals. January, 32.

Adams, David L. Metal Hydrides and the Dawn of the Atomic Age. March, 205.

Booth, Harold; Hey, Michael J. DNA before Watson & Crick—The Pioneering Studies of J. M. Gulland and D. O. Jordan at Nottingham. October, 928.

Chen, Wen; Orna, O.S.U., Mary Virginia. Recent Advances in Archaeological Chemistry: A Summary of Three Major Papers Presented as an Introduction to the Archaeological Chemistry Symposium, Anaheim, California. June, 485.

Cohen, Paul S.; Cohen, Stephen M. Wöhler's Synthesis of Urea: How Do the Textbooks Report It? (TF) September, 883.

Coppola, Brian P.; Smith, David H. A Case for Ethics. January, 33.

Davenport, Derek A. In This Issue: A Tribute to Linus Carl Pauling (1901–1994). January, 2.

Davenport, Derek A. Letters to F. J. Allen: An Informal Portrait of Linus Pauling. (SYM) January, 21.

Deltete, Robert J.; Thorsell, David L. Josiah Willard Gibbs and Wilhelm Ostwald: A Contrast in Scientific Style. April, 289.

Donnelly, Thomas H. The Origins of the Use of Antioxidants in Foods. (PROD) February, 158.

Eliel, Ernest L.; Engelsman, Jan J. The Heats of Combustion of Gaseous Cyclotetradecane and *trans*-Stilbene—A Tale of Long-standing Confusion. September, 903.

Everett, Kenneth G.; DeLoach, Will S.; Bressan, Stephanie E. Women in the Ranks: Faculty Trends in the ACS-Approved Departments. February, 139.

Gorin, George. Mendeleev and Moseley: The Principal Discoverers of the Periodic Law. June, 490.

Grayson, Martin. Cafe Monologue: A Tribute to Linus Carl Pauling (1901–1994) . (SYM) January, 3.

Hoffmann, Roald. Teach To Search: ACS 1996 Pimentel Award. September, A202.

Jensen, William B. Electronegativity from Avogadro to Pauling: Part 1: Origins of the Electronegativity Concept. (SYM) January, 11.

Kauffman, George B.; Mayo, Isaac. Multidisciplinary Scientist—Melvin Calvin: His Life and Work. May, 412.

Kauffman, Laurie M.; Kauffman, George B. An Interview with Linus Pauling. (SYM) January, 29.

Kjonaas, Richard A. Amyl: A Misunderstood Word. December, 1127.

Lagowski, J. J. The Role of Academic Science. (Editorial) February, 103.

Lagowski, J. J. The Education Summit; A Different Signal. (Editorial) May, 383.

Lagowski, J. J. Re-Harnessing the Genie. (Editorial) June, 479.

Laing, Michael. Bring Back Equivalent Weight—*If You Want the Kids To "Think"!* November, 1007.

Moore, John W. It's a Matter of Money. Or Is It? (Editorial) November, A257.

Mosher, Michael D. A Chemical Genealogy Assignment. December, 1119.

Paradowski, Robert J. Some Personal Reflections of a Pauling Biographer on the Art and Science of Scientific Biography: The Biographical Quest. (SYM) January, 4.

Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women's Fields of Chemistry: 1900–1920. February, 136.

Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women In Chemistry: Participation during the Early 20th Century. March, 203.

Rhodes, Gale. The Well-Read Biochemist. August, 732.

Rosenfield, Stuart. Undergraduate Research. (LTE) October, A227.

Sharma, Brahama D. Molecular Orbital (Hückel) Theory and Linus Pauling: A Historical Perspective. August, 746.

Sparberg, Esther B. Hindsight and the History of Chemistry. March, 199.

ten Hoor, Marten J. The Formation of Urea: Controversies and Confusion. January, 42.

Thomsen, Volker. Swedish Chemists and Discovery of the Elements. October, 937.

Wamser, Christian; Wamser, Carl C. Lejaren A. Hiller, Jr.: A Memorial Tribute to a Chemist–Composer. July, 601.

Warnhoff, E. W. The Curiously Intertwined Histories of Benzene and Cyclohexane. June, 494.

Hydrogen Peroxide

Burness, James H. Oxygen from Hydrogen Peroxide: an Experimental Modification. (F&R) September, 851.

Conklin, Jr., Alfred R.; Kessinger, Angela. Demonstration of the Catalytic Decomposition of Hydrogen Peroxide. (TD) September, 838.

Hansen, John C. The Iodide-Catalyzed Decomposition of Hydrogen Peroxide: A Simple Computer-Interfaced Kinetics Experiment for General Chemistry. (CS #188) August, 728.

Schäffer, Susan Cline; Schäffer, Claus E. Fundamental Issues of Thermodynamics Illuminated by Conspicuous Inorganic Chemistry: Oxidation of $[Co(H_2O)_6]^{2+}$ to $[Co(H_2O)_6]^{3+}$ by Hydrogen Peroxide: A Nonspontaneous Redox Reaction Made Feasible by Thermodynamic Coupling. February, 180.

Industrial Chemistry

Davies, Geoffrey. Cooperative Education: Experiential Cooperative and Study Abroad Education. (COOP) May, 438.

Juhl, Lorie. General Chemistry in Technical Education: Creating an Applied and Cooperative Experience. (COOP) January, 72.

Katz, Marlene. Teaching Organic Chemistry via Student-Directed Learning: A Technique that Promotes Independence and Responsibility in the Student. May, 440.

Lagowski, J. J. The Role of Academic Science. (Editorial) February, 103.

Marín, José M. Provocative Opinion:The Sense of University Research: The Abyss between Science and Technology. (PO) March, 217.

Phelps, Cindy L.; Smart, Neil G.; Wai, C. M. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.

Soran, Patrick D.; Neal, Everett E.; Smith, Barbara; Mullen, Ken I. On-Line Surfactant Monitoring by Foam Generation. August, 819.

Wiseman, Alan. Novel Biocatalysts Will Work Even Better for Industry. (PROD) January, 55.

Inorganic Chemistry

Arnáiz, Francisco J. The Synthesis of [Pd(μ-Cl) $(C_6H_4N{=}NPh)$ $]_2$. (ML) June, A126.

Bautista, Maria T.; Bynum, Lynikka D.; Schauer, Cynthia K. Synthesis of η^2-Dihydrogen Complex, *trans*-[Fe(η^2-H_2) (H) [1,2-bis(diphenylphosphino) ethane]$_2$][BF_4]: An Experiment for an Advanced Inorganic Chemistry Laboratory Involving Synthesis and NMR Properties of an η^2-H_2 Complex. October, 988.

Berry, David E.; Girard, Suzanne; McAuley, Alexander. The Synthesis and Reactions of Nickel(III) Stabilized by a Nitrogen-Donor Macrocycle. June, 551.
Branca, Mario; Loiselle, Steven. A Manageable Measurement Method for Sodium. September, 857.
Childs, Scott L.; Hagen, Karl S. The Inorganic Illustrator: A 3-D Graphical Supplement for Inorganic and Bioinorganic Chemistry Courses Distributed on CD-ROM. (NSF) October, 917.
Comba, Peter; Zimmer, Marc. Inorganic Molecular Mechanics. February, 108.
Drago, Russell S.; Wong, Ngai M. The Role of Electron-Density Transfer and Electronegativity in Understanding Chemical Reactivity and Bonding. February, 123.
Duffy, J. A. Optical Basicity: A Practical Acid–Base Theory for Oxides and Oxyanions. December, 1138.
Hancock, Robert D.; Martell, Arthur E. Hard and Soft Acid–Base Behavior in Aqueous Solution. July, 654.
Hawkes, Stephen J. Salts are Mostly *NOT* Ionized. May, 421.
Hayes II, Jerry W.; Taylor, Cynthia J.; Hotz, Richard P. Novel Preparation of a Tetraaza Macrocycle: An Advanced Inorganic Chemistry Laboratory. October, 991.
Hoffmann, Roald. Teach To Search: ACS 1996 Pimentel Award. September, A202.
Hop, Cornelius E. C. A.; Bakhtiar, Ray. Electrospray Ionization Mass Spectrometry: Part III: Applications in Inorganic Chemistry and Synthetic Polymer Chemistry. (TCI) August, A162.
Koubek, Edward; Elert, Mark. A Demonstration of Crystal-Field Effects in Octahedral Complexes. (TD) October, 947.
Lind, Gerhard. Inorganic Nomenclature. (LTE) August, 826.
Lipkowitz, Kenny B.; Pearl, Greg M.; Robertson, Daniel H.; Schultz, Franklin A. Computational Chemistry for the Inorganic Curriculum. February, 105.
Manning, Thomas J. Approximating the Electrostatic Contribution to ΔS for Aqueous Phase Lanthanide–Aminocarboxylate Complexation. July, 661.
McNeese, Timothy J.; Ezbiansky, Karin A. Photochemical Preparation and Reactivity of *cis*-$Cr(CO)_4(CH_3CN)_2$: An Advanced Undergraduate Inorganic Laboratory Experiment. June, 548.
Melrose, Melvyn P.; Scerri, Eric R. Why the 4*s* Orbital Is Occupied before the 3*d*. June, 498.
Novak, Igor. Chemical Enumeration with Mathematica. February, 120.
Novak, Igor. Chemical Enumeration with Mathematica. (Corrections) August, 737.
Ochiai, Ei-Ichiro. CO, N_2, NO, and O_2—Their Bioinorganic Chemistry: Principles and Applications in Bioinorganic Chemistry-VIII. February, 130.
Ophardt, Charles E. Inorganic Molecules: A Visual Data Base. (JCE: Software) March, 246.
Schäffer, Susan Cline; Schäffer, Claus E. Fundamental Issues of Thermodynamics Illuminated by Conspicuous Inorganic Chemistry: Oxidation of $[Co(H_2O)_6]^{2+}$ to $[Co(H_2O)_6]^{3+}$ by Hydrogen Peroxide: A Nonspontaneous Redox Reaction Made Feasible by Thermodynamic Coupling. February, 180.
Smith, Derek W. Stability Index Diagrams: Pictorial Representations of the Relative Stabilities of Oxidation States for Metallic Elements. November, 1099.
Smith, Derek W. Simple Treatment of the Symmetry Labels for the *d*-*d* States of Octahedral Complexes. June, 504.
ten Hoor, Marten J. Inorganic Nomenclature. (LTE) August, 825.
Teweldemedhin, Z. S.; Fuller, R. L.; Greenblatt, M. Magnetic Susceptibility Measurements of Solid Manganese Compounds with Evan's Balance. September, 906.
Vogel, Glenn C.; Drago, Russell S. The ECW Model. August, 701.

Inorganic Synthesis

Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS–MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Arnáiz, Francisco J. The Synthesis of $[Pd(\mu\text{-}Cl)(C_6H_4N{=}NPh)]_2$. (ML) June, A126.
Bautista, Maria T.; Bynum, Lynikka D.; Schauer, Cynthia K. Synthesis of η^2-Dihydrogen Complex, *trans*-$[Fe(\eta^2\text{-}H_2)(H)$[1,2-bis(diphenylphosphino) ethane]$_2][BF_4]$: An Experiment for an Advanced Inorganic Chemistry Laboratory Involving Synthesis and NMR Properties of an η^2-H_2 Complex. October, 988.
Berry, David E.; Girard, Suzanne; McAuley, Alexander. The Synthesis and Reactions of Nickel(III) Stabilized by a Nitrogen-Donor Macrocycle. June, 551.
Hayes II, Jerry W.; Taylor, Cynthia J.; Hotz, Richard P. Novel Preparation of a Tetraaza Macrocycle: An Advanced Inorganic Chemistry Laboratory. October, 991.
Henderleiter, Julie A.; Hyslop, Richard M. The Analysis of Riboflavin in Urine Using Fluorescence. June, 563.
McNeese, Timothy J.; Ezbiansky, Karin A. Photochemical Preparation and Reactivity of *cis*-$Cr(CO)_4(CH_3CN)_2$: An Advanced Undergraduate Inorganic Laboratory Experiment. June, 548.
Mocellin, E.; Ravera, M.; Russell, R. A.; Hynson, T. Over 100 Years of Research on Cyclopentadienylironcarbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.

Instrumental Methods

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.
Bettis, Cliff; Lyons, Edward J.; Brooks, David W. Illustrating Fourier Transforms. September, 839.
Bonser, Amy M.; Moe, Owen A. Labeling Histidines in Cytochrome c: An Integrated Laboratory Project. August, 794.
Braun, Robert D. Operational Amplifier Experiments for the Chemistry Laboratory. September, 858.
DeGraff, Benjamin A.; Horner, David A. Luminescence Decay and Flash Photolysis Experiments Using an Inexpensive, Laser-Based Apparatus. March, 279.
Drew, Steven M. Integration of National Instruments' LabVIEW Software into the Chemistry Curriculum. December, 1107.
Duffy, Stephen J.; vanLoon, Gary W. Interfacing Techniques for Instrumental Analysis: An Exercise. (CS #184) April, 318.
Fietkau, Roland; Ahuja, Eric. A "V" Groove Nebulizer for Flame AAS. January, 102.
Gostowski, Rudy. Teaching Analytical Instrument Design with LabVIEW. December, 1103.
Hamilton, Jay R.; White, Jeffrey S.; Nakhleh, Mary B. Development of a Low-Cost Four-Color LED Photometer. November, 1052.
Hauser, Peter C.; Cates, Norman E. An Inexpensive Detector for Absorbance Measurements in Flow-Injection Analysis. February, 191.
Hofstadler, Steven A.; Bakhtiar, Ray; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part I. Instrumentation and Spectral Interpretation (TCI). April, A82.
Hop, Cornelius E. C. A.; Bakhtiar, Ray. Electrospray Ionization Mass Spectrometry: Part III: Applications in Inorganic Chemistry and Synthetic Polymer Chemistry. (TCI) August, A162.
Kegley, Susan E.; Hansen, Kristen J.; Cunningham, Kevin L. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.
Leary, James J.; Schmidt, Rebecca L. Quadrupole Mass Spectrometers: An Intuitive Look at the Math. December, 1142.
Lötz, A. Multichannel DTA Apparatus for the Measurement of Phase Diagrams. February, 195.
Mabrouk, Patricia Ann. Planning a Day at PITTCON: An Introduction to Current Trends in Analytical Research for Undergraduates. (TCI) February, A23.
Marriott, Philip J.; Carpenter, Peter D. Capillary Gas Chromatography Injection: An Exercise for Students of Instrumental Analysis. January, 96.
Masson, Bernard L. X-ray Powder Diffraction Simulation with a Microcomputer. (CS #190) October, 918.
Mills, Nancy S. Complete Assignment of Proton Chemical Shifts in Terpenes: An Experiment Combining 2D NMR Spectroscopy with Molecular Modeling. December, 1190.
Mossman, Daniel M.; Kooser, Robert G.; Welch, Lawrence. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.
Muyskens, Mark A.; Glass, Samuel V.; Wietsma, Thomas W.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.
Ogren, Paul J.; Jones, Thomas P. Laboratory Interfacing Using the LabVIEW Software Package. (CBB) December, 1115.
Paniagua, Juan Carlos; Moyano, Albert. On the Way of Introducing Some Basic NMR Aspects: From the Classical and Naive Quantum Models to the Density-Operator Approach. April, 310.
Parcher, Jon F.; Yun, Kwang S. Gas Chromatographic Measurement of Void Volume and Mobile Phase Volume: Illustration of the Concepts of Excess and Total Adsorption. September, 894.
Peterson, Jim. Fluorometric Determination of Aluminum: A Quantitative Experiment for the Instrumental Analysis Laboratory. March, 262.
Pillay, A. E.; Peisach, M. High Resolution Energy Dispersive Spectrometry with Charge-Induced X-Rays: Principles, Comparison with Other Methods, and Possible Applications. June, 508.
Quigley, Michael N. A Solenoid-Operated Gas or Liquid Saver. February, 194.
Quigley, Michael N.; Vernon, Frederick. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.
Quigley, Michael N.; Vernon, Frederick. A Matrix Modification Experiment for Use in Electrothermal Atomic Absorption Spectrophotometry. October, 980.
Quist, Per-Ola. Simple NMR Imaging. August, 751.
Ratna, Shashi Saxena; Upadhyay, Pramod. A Simple and Low-Cost Air Sampler. August, 787.
Rocha, Fábio R. P.; Nóbrega, Joaquim A. Effects of Solution Physical Properties on

Copper and Chromium Signals in Flame Atomic Absorption Spectrometry. October, 982.
Schmedake, Thomas A.; Welch, Lawrence E. The Quantitative Analysis of an Analgesic Tablet: An NMR Experiment for the Instrumental Analysis Course. November, 1045.
Seckin, Turgay; Kormali, Suphi M. An-Easy-to-Build Rotational Viscometer with Digital Readout. February, 193.
Sproch, Norman; Begin, Kelly J.; Morris, Robert J. The Modern Student Laboratory: Chromatography: An LC/Particle Beam/MS Experiment for Undergraduates. (MODLAB) February, A33.
Teweldemedhin, Z. S.; Fuller, R. L.; Greenblatt, M. Magnetic Susceptibility Measurements of Solid Manganese Compounds with Evan's Balance. September, 906.
Viswanathan, R.; Lisensky, G.; Dobson, D. A. Off-the-Shelf Portable Data Acquisition: Interfacing a Serial-Port-Equipped Multimeter. (CBB) February, A41.
Wigman, Larry S.; Hart, Elizabeth E.; Gombatz, Constance. IR Spectroscopy Using Disposable Polyethylene Cards: A Replacement for KBr Pellets and Mulls. July, 677.

Intermolecular Forces

Pravia, Katia; Maynard, David F. Why Don't Water and Oil Mix? (OP) June, 497.
Reid, Brian P. Determining Intermolecular Potentials from Second Virial Coefficients. (CS #187) July, 612.
Rich, Ronald L. Boiling Point and Molecular Weight. (LTE) December, A294.

Internet

Barmettler, Peter. Biochemical Data on the Web. (CS #186) June, 520.
Darensbourg, Marcetta Y. Simple Techniques Can Give Pleasurable Results. November, A273.
Holmes, Colette O.; Warden, Joseph T. CIStudio: A Worldwide Web-Based, Interactive Chemical Information Course. (CII) April, 325.
JCE: Online. Nonprint Resourses of the *Journal* http://jchemed.chem.wisc.edu/. (JCE: Software) May, 436.
Judd, Carolyn Sweeney. News from On-Line. September, A195.
Judd, Carolyn Sweeney. News from On-Line. December, A304.
Kenkel, John. Chemistry Education at the 2-Year Colleges—What's New? Part 2. November, A272.
Mounts, Richard D. Chemistry on the Web. (CS #181) January, 68.
Stevens, Karen E.; Stevens, Richard E. Use of the World Wide Web in Lower-Division Chemistry Courses. October, 923.
Tissue, Brian M. Applying Hypermedia to Chemical Education. (CS #181) January, 65.
Tissue, Brian M.; Earp, Ronald L.; Yip, Ching-Wan; Anderson, Mark R. Development and Evaluation of Internet-Based Hypermedia Chemistry Tutorials. (NSF) May, 446.

Introductory/High School Chemistry

Adamchik, Jr., Charles F. The Design and Assessment of Chemistry Portfolios. (TP) June, 528.
Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Anderson, Guy E. Small Scale Electrolytic Cells. (ML) August, A172.
Anderson, Guy E. A Simpler Small Scale Method for the Identification of Plastics. (ML) August, A173.
Anderson, Michael; Buckley, Amy. Equilibrium Constants You Can Smell. (TD) July, 639.
Anwar, Jamil; Nagra, Saeed Ahmad; Nagi, Mehnaz. Thin-Layer Chromatography: Four Simple Activities for Undergraduate Students. October, 977.
Banerjee, Anil. Chemical Equilibrium. (LTE) November, A262.
Barry, Dana M. Schools Benefit from Clarkson's CAMP. March, 209.
Beall, Herbert. Report on the WPI Conference: General Chemistry and Materials Science: The Interrelationships. August, 756.
Beasley, Warren. Reforming the Visions of High School Chemistry: A Perspective from "Down Under". April, 344.
Berger, Tomás G.; Mellon, Edward K. A Multistep Equilibria-Redox-Complexation Demonstration To Illustrate Le Châtelier's Principle. (TD) August, 783.
Bieron, Joseph F.; McCarthy, Paul J.; Kermis, Thomas W. A New Approach to the General Chemistry Laboratory. (FORUM) November, 1021.
Bindel, Thomas H. Lightstick Magic: Determination of the Activation Energy with PSL. (F&R) April, 356.
Birk, James P.; Abbassian, Soraya. Teaching VSEPR: The Plastic Egg Model. July, 636.
Birk, James P.; Kurtz, Martha J. Using Cooperative Learning Techniques To Train New Teaching Assistants. July, 615.
Black, Suzanne L. General Chemistry Laboratory–Scientific Inquiry: 157 New Experiments in One Semester. August, 776.
Bragin, Victoria M. Interactive Computer Visualization in the Introductory Chemistry Curriculum. (NSF) August, 747.
Bravo-Díaz, Carlos; González-Romero, Elisa. Showing Emulsion Properties with Common Dairy Foods. September, 844.
Brouwer, Henry. Work Done by a Chemical Reaction. (TD) April, 354.
Brożek, Celestyn M. Simple and Attractive Demonstration of the Reversibility of Chemical Reactions. (TD) September, 837.
Burness, James H. Oxygen from Hydrogen Peroxide: an Experimental Modification. (F&R) September, 851.
Burness, James H. A General Chemistry Final Exam Based on the Chemical Literature. December, 1120.
Cavaleiro, Ana M. V. S. V. The Teaching of Precipitation Equilibrium: A New Approach. May, 423.
Coleman, William F. Curve Fitting: An Alternative Approach to Analyzing Kinetic Data in Introductory Chemistry. (CS #183) March, 243.
Cooke, Ron C.; Willis, Grover C. Which E° Is it? The Story of a Student Discovery. (CP) May, 450.
Craney, Chris; Mazzeo, April; Lord, Kaye. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.
Crawford, Rebecca D. Chem-Crostic. May, 454.
Crosby, G. A. Implications of the National Science Education Standards for Higher Education. September, A200.
Curtright, Robert; Rynearson, James A.; Markwell, John. Anthocyanins: Model Compounds for Learning about More than pH. April, 306.
Dalby, David K. Bigger and Brighter Flame Tests. (TD) January, 80.
Deavor, James P. Chemical Jeopardy. May, 430.
Delaware, Dana L.; Freeman, R. Griff; Moody, Anne E.; Van Galen, Dean. The Freshman Chemistry Seminar. (FORUM) February, 144.
Dobrzynski, Edward D. Voltaic Cell Measurements on a Spot Plate with a Cotton Swab Bridge. (ML) January, A6.
Dombrink, Kathleen J. A Commercial Device Involving the Breathalyzer Test Reaction. (AA) February, 135.
Dominic, Sheryl. What's a Mole For? (TP) April, 309.
Driscoll, Jerry A. Visible Ion Exchange Demonstration for Large or Small Lecture Halls. (TD) July, 640.
Duncan, Robert L. Electronic Configuration Pattern Found in Pascal's Triangle. August, 742.
DuPre, Donald B. Blood or Taco Sauce? The Chemistry behind Criminalists' Testimony in the O. J. Simpson Murder Case. January, 60.
Eckey, Doris. A Millikan Oil Drop Analogy. (AA) March, 237.
Elderd, Dianne M.; Kildahl, Nicholas K.; Berka, Ladislav H. Experiments for Modern Introductory Chemistry: Identification of Arson Accelerants by Gas Chromatography. July, 675.
Ferguson, Lawrence A. How Do I Balance Thee? ... Let Me Count the Ways!. (TP) December, 1129.
Furio, Carlos; Calatayud, Mª Luisa. Difficulties with the Geometry and Polarity of Molecules: Beyond Misconceptions. January, 36.
Gammon, Steven D. Four Programs for Windows: Abstract of Volume 4D, Number 2: PSL Photometer. (JCE: Software) November, 1077.
Gesser, H. D. The Bobbing (Drinking) Bird. April, 355.
Gilleapie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 1: Electron Configurations from Experiment. (FORUM) July, 617.
Gillespie, Ronald J.; Spencer, James N.; Moog, Richard S. Demystifying Introductory Chemistry Part 2: Bonding and Molecular Geometry without Orbitals-The Electron Domain Model. (FORUM) July, 622.
Glasser, Lesile; Bradley, John D.; Brink, George; van Zyl, Pam. CAI for Chemistry. (JCE: Software) April, 323.
Goodrich, James; Durham, Bill. Interfacing "8088" Computers in the Chemistry Laboratory. (CBB) June, A131.
Graham, Donald M. A 3-D Diagram of the Relationships among Atomic Orbitals. March, 210.
Graham, Donald M. Significant Figures in Graph Interpretation. March, 211.
Gulden, Warren. Using Physics Principles in the Teaching of Chemistry. (VIEW) August, 771.
Hampp, Andreas. The Extraction of Caffeine from Tea: A Modification of the Procedure of Murray and Hansen. December, 1172.
Hansen, John C. The Iodide-Catalyzed Decomposition of Hydrogen Peroxide: A Simple Computer-Interfaced Kinetics Experiment for General Chemistry. (CS #188) August, 728.
Hansen, Lee D.; Garner, Judy L.; Wilson, Byron J.; Cluff, Coran L.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.
Harris, Mary. A Simulated Growth Hormone Analysis. (F&R) August, 735.
Harwood, W. S. The One-Minute Paper: A Communication Tool for Large Lecture Classes. March, 229.
Hauck, Christian. An Excel 4.0 Add-in Function To Calculate Molecular Mass. (CS #185) May, 433.
Hawkes, Stephen J. Strategic Consequences from Errors in Raoult's Law Paper. January, 41.
Hawkes, Stephen J. All Positive Ions Give Acid Solutions in Water. June, 516.

Heiser, Terry L. A Polymer "Pollution Solution" Classroom. September, 843.
Hernandez, Sandra A.; Rodriguez, Nora M.; Quinzani, Oscar V. An Easily Constructed and Versatile Molecular Model. August, 748.
Hildebrand, Achim; Hilgers, Uwe; Blume, Rüdiger; Wiechoczek, Dagmar. Playing with the Soccer Ball—an Experimental Introduction to Fullerene Chemistry. November, 1066.
Hill, John W. Musk Oxen and Micelles. (AA) September, 847.
Hill, John W. Tape and Tetrahedra. June, 531.
Hollis Jr., W. Gary. *Jurassic Park* as a Teaching Tool in the Chemistry Classroom. January, 61.
Holmes Jr., L. H. Textbook Forum: The Solubility of Gases in Liquids. (TF) February, 143.
Huebner, Jay S.; Vergenz, Robert A.; Smith, Terry L. Astronomy Matters for Chemistry Teachers. November, 1073.
Johnson, Steven D. An Empirical Formula from Ion Exchange Chromatography and Colorimetry. December, 1179.
Juhl, Lorie. General Chemistry in Technical Education: Creating an Applied and Cooperative Experience. (COOP) January, 72.
Kelter, Paul B.; Carr, James D.; Johnson, Tanya; Castro-Acuña, Carlos Mauricio. The Chemical and Educational Appeal of the Orange Juice Clock. (TD) December, 1123.
Kenkel, John. Chemistry Education at the 2-Year Colleges—What's New? Part 2. November, A272.
Kennepohl, Dietmar. Home-Study Microlabs. October, 938.
Kerber, Robert C.; Akhtar, Mohammad J. Getting Real: A General Chemistry Laboratory Program Focusing on "Real World" Substances. (FORUM) November, 1023.
Kim, Hie-Joon. Learning Chemistry through Numbers. (TP) March, 236.
Kirkwood, Valda; Symington, David. Lecturer Perceptions of Student Difficulties in a First-Year Chemistry Course. April, 339.
Kogut, Leonard S. Using Quality Circles in General Chemistry. (FORUM) February, 146.
Kogut, Leonard S. Critical Thinking in General Chemistry. March, 218.
Koubek, Edward; Elert, Mark. A Demonstration of Crystal-Field Effects in Octahedral Complexes. (TD) October, 947.
Kovács-Hadady, Katalin; Fábián, István. Are They Really Sloppy? A Comparative Analysis of Student Performance in the Laboratory. May, 461.
Krause, Paul; Manion, Jerry. A Novel Approach to Teaching Electrochemical Principles. (TD) April, 354.
Krieger, Albert G.; Henderson, John W. Notes on Vapor Pressure Equilibria Measurements. November, 1039.
Laing, Michael. Bring Back Equivalent Weight—*If You Want the Kids To "Think"!* November, 1007.
Lark, B. S. A Paper Vernier Scale for Various Laboratory Equipment. February, 177.
Leber, Phyllis A.; Szczerbicki, Sandra K. Theme-Based Bidisciplinary Chemistry Laboratory Modules. (NSF) December, 1130.
LeRoux, Xavier; Ottewill, Gerry A.; Walsh, Frank C. The Comparative Performance of Batteries: The Lead–Acid and the Aluminum–Air Cells. August, 811.
Li, Jin; Dai, Le-Sui; You, Li-Shu. A Modified Demonstration of the Activation Energy Concept. (TD) October, 948.
Lieu, Van T. A Simple Experiment for Demonstration of Phase Diagram of Carbon Dioxide. (TD) September, 837.
Lin, Qun; Kirsch, Paul; Turner, Ralph. Numeric and Conceptual Understanding of General Chemistry at a Minority Institution. October, 1003.
Logan, S. R. Chemical Equilibrium. (LTE) November, A261.
Ludwig, Oliver G. On Balancing "Redox Challenges". June, 507.
Madlung, Andreas. The Chemistry behind the Air Bag: High Tech in First-Year Chemistry. (PROD) April, 347.
Maier, Mary L. Polymer Science Pilot Program. July, 643.
Martin, John S. SIRs: Simulations and Interactive Resources, III. (JCE: Software) August, 722.
Mason, P. K.; Sarquis, A. M.; Williams, J. P. Take-Home Challenges: Extending Discovery-Based Activities beyond the General Chemistry Classroom. (NSF) April, 337.
McElroy, Lloyd J. Teaching Dilutions. (AA) August, 765.
Mitchell, Richard S. Iodine Clock Reaction. (TD) August, 783.
Mitschele, Jonathan. Beer–Lambert Law. (LTE) November, A260.
Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.
Mullin, Jerome; Courtney, Pamela. Using Inexpensive "Find & Circle" Word Search Software in the Study of Chemical Nomenclature. (CBB) June, A130.
Nakhleh, Mary B.; Lowrey, Kirsten A.; Mitchell, Richard C. Narrowing the Gap between Concepts and Algorithms in Freshman Chemistry. August, 758.
Narayanan, V. Anantha; Narayanan, Radha. Low-Cost Lateral Displacement Refractometer for Liquids: A Take-Home Student Experiment. August, 784.
Nash, John J.; Meyer, Jeanne A. R; Nurrenbern, Susan C. Waste Treatment in the Undergraduate Laboratory: Let the Students Do It! December, 1183.
Ochs, Raymond S. Thermodynamics and Spontaneity. October, 952.
Ogude, N. A.; Bradley, J. D. Electrode Processes and Aspects Relating to Cell EMF, Current, and Cell Components in Operating Electrochemical Cells: Precollege and College Student Interpretation. December, 1145.
Olander, Claire R. An n-Bottle Lab Exercise with No Hazardous Waste. September, 849.
Ophardt, Charles E. Inorganic Molecules: A Visual Data Base. (JCE: Software) March, 246.
Pharr, Christine M.; Malmberg, Barry J.; Jegla, John D.; Gammon, Steven D. PVC Photometer: Computer-Assisted Spectroscopy Experiments. (CS #183) March, 238.
Phelps, Amy J. Teaching to Enhance Problem Solving: It's More than the Numbers. April, 301.
Plumsky, Roger. Transmuted Labs. (VIEW) May, 451.
Pogliani, Lionello; Berberan-Santos, Mário N. Inflation Rates, Car Devaluation, and Chemical Kinetics. October, 950.
Pravia, Katia; Maynard, David F. Why Don't Water and Oil Mix? (OP) June, 497.
Ramachandraiah, Allikayala. A No-Cost Model of Liquid Structure. (AA) January, 59.
Ratna, Shashi Saxena; Upadhyay, Pramod. A Simple and Low-Cost Air Sampler. August, 787.
Regis, Alberto; Albertazzi, Pier Giorgio; Roletto, Ezio. Concept Maps in Chemistry Education. November, 1084.
Rettich, T. R.; Bailey, David N.; Frank, Forrest J.; Frick, Jeffrey A. An Integrated Curriculum for First- and Second-Year Chemistry Courses. (NSF) July, 638.
Ricci, Robert W.; Nestor, Lisa P. Beer–Lambert Law. (LTE) November, A261.
Roberts, J. L.; Selco, J. I.; Wacks, D. B. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.
Saieed, Alfred E.; Davies, Keith M. A Simple Method for Determining the Temperature Coefficient of Voltaic Cell Voltage. (F&R) October, 959.
Sanger, Michael J.; Greenbowe, Thomas J. Provocative Opinion: Science-Technology-Society (STS) and ChemCom Courses Versus College Chemistry Courses: Is There a Mismatch? (PO) June, 532.
Schallies, Michale; Schnelle, Hans-Otto; Kunze, Klaus. The Use of PTFE Membranes for the Construction of Semimicroscale Gas Reactors. (ML) June, A128.
Scharlin, Pirketta; Cleveland, Audrey A.; Battino, Rubin; Thomas, Monica E. Glowing Veggies. (TD) May, 457.
Schnable, Joseph G.; Kowalewski, Mary S. Viewing and Printing Scientific and Math ASCII Characters on Old and New IBM Compatible Computers. (CBB) June, A130.
Scimone, Anthony; Scimone, Angelina A. The Importance of Undergraduate General and Organic Chemistry to the Study of Biochemistry in Medical School. December, 1153.
Scott, Jacqueline L.; Gammon, Steven D.; Cannon, John F.; Hunsberger, Lynn R. Beer's Law: A Computerized Experiment. (JCE: Software) April, 324.
Sharma, Brahama D. Myths about pH and pH Meters. (LTE) June, 598.
Silberman, Robert G. Solubility and Thermodynamics: An Introductory Experiment. (F&R) May, 426.
Smith, Kimberly Jo; Metz, Patricia A. Evaluating Student Understanding of Solution Chemistry through Microscopic Representations. March, 233.
Solomon, Sally; Hur, Chinhyu; Lee, Alan. Diffusion Rate on the Overhead Projector: Amines Compared to HCl. (OP) January, 81.
Solomon, Sally; Hur, Chinyu; Lee, Alan; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.
Spain, James D. Electronic Homework: Computer-Interactive Problem Sets for General Chemistry. March, 222.
Spencer, Harry E. Mathematical SAT Test Scores and College Chemistry Grades. December, 1150.
Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 3: Ionization Energies, Electronegativity, Polar Bonds and Partial Charges. (FORUM) July, 627.
Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 4: An Approach to Reaction Thermodynamics through Enthalpies, Entropies, and Free Energies of Atomization. (FORUM) July, 631.
Stevens, Karen E.; Stevens, Richard E. Use of the World Wide Web in Lower-Division Chemistry Courses. October, 923.
Stick, Robert V.; Mocerino, Mauro. Sodium Chloride Revisited. (TD) June, 539.
Stick, Robert V.; Mocerino, Mauro. Azo Dyes. (TD) June, 540.
Stucke, Ann; Gannaway, Susan P. New Literature Suggests that We Don't Have To Teach Everything in the Textbook. (TP) August, 773.
Sundback, Karen A. Testing for Lead in the Environment. (F&R) July, 669.
Swartz, James E.; Schladetzky, Kurt. Experimental Illustration of the Utility of Lewis Structures: An FTIR Experiment for Introductory Chemistry. February, 188.
Swim, James; Earps, Edward; Reed, Laura M.;

Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.
Thomas, Eugene. Laser Pointer and the Tyndall Effect. May, 470.
Thomas, Oleta M. Inner City Students. (LTE) October, A228.
Toloudis, Miriam. The Size of a Mole. (AA) April, 348.
Toong, Yock Chai. Bench Top Vortexing Countercurrent Extractor for Controlled pH Extraction of a Mixture. May, 476.
Treadway, Jr., William J. The Multimedia Chemistry Laboratory: Perception and Performance. (CS #189) September, 876.
Trumbore, Conrad N.; Bevenour, Julie; Scantlebury, Kathryn. Chemistry and the Human Environment: A Course for Non-Science Majors. November, 1012.
Varco-Shea, Theresa C.; Darlington, Jeanne; Turnbull, Marilyn. Group Project Format in First-Semester General Chem Lab. June, 536.
Waldman, Amy Sue; Schechinger, Linda; Nowick, James S. A Coordinated Chemistry Outreach Program for Thousands of High School Students. August, 762.
Ware, Sylvia A. Chemistry in the National Science Education Standards. December, A307.
Weaver, Gabriela C.; Kimbrough, Doris R. Colorful Kinetics. (OP) March, 256.
Weimer, Peter M.; Battino, Rubin. The Incredible Glowing Pickle and Onion and Potato and... (TD) May, 456.
Winder, Edmund J.; Ellis, Arthur B.; Lisensky, George C. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.
Wood, John T.; Eddy, Roberta M. Olfactory Titration. (F&R) March, 257.
Wood, John T.; Eddy, Roberta M. What's the Shiny Stuff in Drano? (F&R) May, 463.
Wruck, Betty J. Reinforcing Net Ionic Equation Writing: Second Semester. February, 149.
Zafran, Robert. From the Research Laboratory to the Classroom: A *Partners-in-Science* Experience. (TP) January, 78.
Zhou, Rei E. How To Offer the Optimal Demonstration of the Electroysis of Water. August, 786.

Iodine

Hansen, John C. The Iodide-Catalyzed Decomposition of Hydrogen Peroxide: A Simple Computer-Interfaced Kinetics Experiment for General Chemistry. (CS #188) August, 728.
Mitchell, Richard S. Iodine Clock Reaction. (TD) August, 783.
Muenter, John S. The Helium–Neon Laser-Induced Fluorescence Spectrum of Molecular Iodine: An Undergraduate Laboratory Experiment. June, 576.
O'Brien, L. C.; Kubicek, R. L. Binding-Energy Curve for Iodine Using Laser Spectroscopy. January, 86.

Ion Exchange

Driscoll, Jerry A. Visible Ion Exchange Demonstration for Large or Small Lecture Halls. (TD) July, 640.
Mabrouk, Patricia Ann. The Modern Student Laboratory: Purification of Horse Heart Cyt c by Ion Exchange. (MODLAB) July, A149.

IR Spectroscopy

Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Bader, Morris. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
David, Carl W. IR Vibration–Rotation Spectra of the Ammonia Molecule. January, 46.
Ems-Wilson, Janice. Following Microscale Organic Reactions Using FT–IR. (ML) August, A171.
Ganapathisubramanian, N. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
Moeur, Harriet P.; Pinnell, Robert P. Use of the Disposable IR Card in the Organic Chemistry Laboratory. April, 371.
Nuhrich, Alain; Varache-Lembège, Martine; Lacan, Fabrice; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.
Pattacini, Silvio C. Use of a 10-cm Pathlength Quartz Cell for the Separation of the Isotopes of HCl Vapor. August, 822.
Swartz, James E.; Schladetzky, Kurt. Experimental Illustration of the Utility of Lewis Structures: An FTIR Experiment for Introductory Chemistry. February, 188.
Tudela, David. Infrared Spectroscopy and Bond Strengths. (LTE) December, A297.
Wigman, Larry S.; Hart, Elizabeth E.; Gombatz, Constance. IR Spectroscopy Using Disposable Polyethylene Cards: A Replacement for KBr Pellets and Mulls. July, 677.

Iron

Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.

Isotopes

Bader, Morris. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
Chen, Wen; Orna, O.S.U., Mary Virginia. Recent Advances in Archaeological Chemistry: A Summary of Three Major Papers Presented as an Introduction to the Archaeological Chemistry Symposium, Anaheim, California. June, 485.
Clark, Roy W. The Microwave Oven Syndrome. (LTE) March, 286.
Ganapathisubramanian, N. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
Harvey, T. G. Acyclic Saturated Ketones. (LTE) December, A295.
Jensen, Torkil H. Fusion—A Potential Power Source or Not? (LTE) April, 382.
Lunelli, Bruno. Fusion—A Potential Power Source or Not? (LTE) April, 382.
Nibler, Joseph W.; Minarik, Philip; Fitts, William; Kohnert, Rodger. Gas-Phase NMR Study of the DCl-HCl Isotope Exchange Reaction. January, 99.
Pattacini, Silvio C. Use of a 10-cm Pathlength Quartz Cell for the Separation of the Isotopes of HCl Vapor. August, 822.
Reed, B. Cameron. Estimating the Critical Mass of a Fissionable Isotope. February, 162.
Rowland, Alex T. Acryclic Saturated Ketones. (LTE) December, A296.
Zafran, Robert. From the Research Laboratory to the Classroom: A *Partners-in-Science* Experience. (TP) January, 78.

Journal Policy

Moore, Elizabeth A. What is Chemical Education Today? September, A194.
Moore, John W. Coalescing the Chemical Education Community. (Editorial) September, A185.
Moore, John W. Why Don't You Write It Up for the *Journal*? (Editorial) October, A223.
New Journal Policy Regarding Laboratory Experiments. December, A311.

Kinetics

Alvarez J., Galvez; Roca R. M., Soler. A Simple Algorithm for the Distinction of Reaction Mechanisms Based on the Measurement of Additive Properties. March, 214.
Bausch, Rainer. Osmotic Pressue and Electrochemical Potential. (LTE) December, A294.
Benini, Omar; Cervellati, Rinaldo; Fetto, Pasquale . The BZ Reaction: Experimental and Model Studies in the Physical Chemistry Laboratory. September, 865.
Bindel, Thomas H. Lightstick Magic: Determination of the Activation Energy with PSL. (F&R) April, 356.
Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.
Coleman, William F. Curve Fitting: An Alternative Approach to Analyzing Kinetic Data in Introductory Chemistry. (CS #183) March, 243.
DeLorenzo, Ronald. Root Mean Square. (LTE) December, A295.
Gallaher, Thomas N.; Gaul, David A.; Schreiner, Serge. The Esterification of Trifluoroacetic Acid: A Variable Temperature NMR Kinetics Study. May, 465.
Guzmán, Miguel; Ortega, Pedro; Vera, Leonel. A Computer Calculation Method in Chemical Kinetics. (CS #190) October, 921.
Hansen, John C. The Iodide-Catalyzed Decomposition of Hydrogen Peroxide: A Simple Computer-Interfaced Kinetics Experiment for General Chemistry. (CS #188) August, 728.
Helliwell, S.; Harden, T. J. Bacterial Toxicity Assessment Using Resazurin Reduction Kinetics: An Undergraduate Toxicity Experiment for the Chemistry-Biology Major. April, 368.
Hindmarsh, Kathryn; House, Donald A. An Easily Demonstrated Zero-Order Reaction in Solution. June, 585.
Inzelt, György. Osmotic Pressue and Electrochemical Potential. (LTE) December, A294.
Iyere, Peter Abeta. Reduction of Viologen Bisphosphate Dihalide with Aluminum Foil. (OP) May, 455.
Kahley, Mary Jo; Novak, Michael. A Practical Procedure for Determining Rate Constants in Consecutive First-Order Systems. April, 359.
Leenson, I. A. Additional Kinetic Information. (LTE) August, 826.
Li, Jin; Dai, Le-Sui; You, Li-Shu. A Modified Demonstration of the Activation Energy Concept. (TD) October, 948.
Lisensky, George C.; Patel, Manish N.; Reich, Megan L. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.
Luckenbaugh, Raymond W. Undergraduate Organic Chemistry Laboratory Safety. November, 1083.
Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. (Corrections) November, A262.
Mitchell, Richard S. Iodine Clock Reaction. (TD) August, 783.
Muenter, John S.; Deutsch, John L. The Nitrogen-Laser Excited Luminescence of Pyrene: A Student Laboratory Study of Excimer Dynamics. June, 580.
Pogliani, Lionello; Berberan-Santos, Mário N. Inflation Rates, Car Devaluation, and Chemical Kinetics. October, 950.
Ramachandran, B. R.; Halpern, Arthur M. Chemical Kinetics in Real Time: Using the Differential Rate Law and Discovering the

Reaction Orders. July, 686.
Strizhak, Peter; Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. September, 868.
Tidwell, Thomas T. The Electrophilic Addition to Alkynes Revisited. November, 1081.
Weaver, Gabriela C.; Kimbrough, Doris R. Colorful Kinetics. (OP) March, 256.
Weiss, Hilton M. Further Comments upon the Electrophilic Addition to Alkynes: A Response to Criticism from Professor Thomas T.Tidwell. November, 1082.

Laboratory Computing

Brockman, Mark; Ordman, Alfred B.; Campbell, A. Malcom. Research in Undergraduate Instruction: A Biotech Lab Project for Recombinant DNA Protein Expression in Bacteria. June, 542.
Duffy, Stephen J.; vanLoon, Gary W. Interfacing Techniques for Instrumental Analysis: An Exercise. (CS #184) April, 318.

Laboratory Equipment/Apparatus

Ali, Imran. A Compact Steam Distillation Apparatus. March, 285.
Ali, Saqib; Danish, M. Disposable Syringe Used as a Grease Applicator. May, 475.
Chen, Carol; Dyer, Jeanne Murgado; Strawbridge, Patricia B. Report: 1996 Cost-Effective, Hands-On Chemistry Education Conference. October, A236.
Desai, Ranjit; Eskola, Philip. A Modified Splash Guard. June, 568.
Elder, John W.; Holtz, Kathleen M. Microwave Microscale Organic Experiments. (ML) May, A104.
Hall, Michael R.; Battino, Rubin. Making an Inexpensive Tesla Coil from a Car Coil. August, 817.
Jasien, Paul G. A Cheaper Laser Source for Beer's Law Experiments. (LTE) March, 286.
Lark, B. S. A Paper Vernier Scale for Various Laboratory Equipment. February, 177.
Lee, Albert W. M. Separatory Flask and Beaker. June, 557.
Lehman, Thomas A.; Pauls, Steven W. A Cheaper Laser Source for Beer's Law Experiments. (LTE) March, 286.
Reilly, Thomas J. Removing Silicone Greases from Round Bottom Flasks. April, 381.
Wigman, Larry S.; Hart, Elizabeth E.; Gombatz, Constance. IR Spectroscopy Using Disposable Polyethylene Cards: A Replacement for KBr Pellets and Mulls. July, 677.

Laboratory Instruction

Adam, D. J.; Mainwaring, J.; Quigley, Michael N. Soxhlet Extraction of Caffeine from Beverage Plants. December, 1171.
Ali, Saqib; Danish, M. Disposable Syringe Used as a Grease Applicator. May, 475.
Almy, John; Herrera, Antonio; Martín, Nazario; Seoane, Carlos; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro[6,6]C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.
Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.
Amsterdamsky, Claude. Phase Transfer Catalysis Applied to Oxidation. January, 92.
Anderson, Guy E. Small Scale Electrolytic Cells. (ML) August, A172.
Anderson, Guy E. A Simpler Small Scale Method for the Identification of Plastics. (ML) August, A173.
Andraos, John. On the Propagation of Statistical Errors for a Function of Several Variables. February, 150.
Anwar, Jamil; Nagra, Saeed Ahmad; Nagi, Mehnaz. Thin-Layer Chromatography: Four Simple Activities for Undergraduate Students. October, 977.
Arnáiz, Francisco J. Easy Filling of Capillaries in an Inert Atmosphere. (ML) May, A102.
Arnáiz, Francisco J. The Synthesis of [Pd(μ-Cl) (C_6H_4N=NPh)]$_2$. (ML) June, A126.
Bachofer, Steven J. Conductivity, a Simple Method To Probe Micellar Solutions. September, 861.
Bader, Morris. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
Bakalbassis, E. G.; Stiakaki, M.-A. D.; Tsipis, A. C.; Tsipis, C. A. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.
Baonza, Valentín García; Cáceres, Mercedes; Núñez, Javier. Mechanical Coefficients of Liquids by a Differential Expansion Method: A Physical Chemistry Experiment. July, 690.
Barceló, A. Ros; Zapata, J. M. Measurement of Quantum Yield, Quantum Requirement, and Energetic Efficiency of the O_2-Evolving System of Photosynthesis by a Simple Dye Reaction. November, 1034.
Bautista, Maria T.; Bynum, Lynikka D.; Schauer, Cynthia K. Synthesis of η^2-Dihydrogen Complex, *trans*-(Fe(η^2-H_2) (H) [1,2-bis(diphenylphosphino) ethane]$_2$][BF_4]: An Experiment for an Advanced Inorganic Chemistry Laboratory Involving Synthesis and NMR Properties of an η^2-H_2 Complex. October, 988.
Bedell, Brooke L.; Crouch, R. David; Holden, Michael S.; Martinson, Heidi E. A Glycosidation Reaction Employing Montmorillonite K-10 as Catalyst. (ML) November, 1041.
Bello, M. A.; González, A. Gustavo. Determination of Phosphate in Cola Beverages Using Nonsuppressed Ion Chromatography: An Experiment Introducing Ion Chromatography for Quantitative Analysis. December, 1174.
Benini, Omar; Cervellati, Rinaldo; Fetto, Pasquale. The BZ Reaction: Experimental and Model Studies in the Physical Chemistry Laboratory. September, 865.
Berry, David E.; Girard, Suzanne; McAuley, Alexander. The Synthesis and Reactions of Nickel(III) Stabilized by a Nitrogen-Donor Macrocycle. June, 551.
Bieron, Joseph F.; McCarthy, Paul J.; Kermis, Thomas W. A New Approach to the General Chemistry Laboratory. (FORUM) November, 1021.
Bindel, Thomas H. Lightstick Magic: Determination of the Activation Energy with PSL. (F&R) April, 356.
Black, Suzanne L. General Chemistry Laboratory–Scientific Inquiry: 157 New Experiments in One Semester. August, 776.
Blackman, Adrian J. A Pedagogical Approach to Qualitative Organic Analysis: Simulating the Integration of Wet Tests Spectroscopy and Common Sense. (CS #185) May, 434.
Bonicamp, Judith M. Procedure Modification for the Use of Corn Starch Packing Puffs for Titration Endpoints. March, 258.
Bonser, Amy M.; Moe, Owen A. Labeling Histidines in Cytochrome c: An Integrated Laboratory Project. August, 794.
Bowlus, R. David; Grether, Susan C. A Rapid PCR Lab Exercise. (LTE) May, 477.
Braga, Fernando G. Inexpensive Small-Scale Sonochemistry with Magnetic Agitation. (ML) May, A104.
Branca, Mario; Loiselle, Steven. A Manageable Measurement Method for Sodium. September, 857.
Braun, Robert D. Operational Amplifier Experiments for the Chemistry Laboratory. September, 858.
Bravo-Díaz, Carlos; González-Romero, Elisa. Showing Emulsion Properties with Common Dairy Foods. September, 844.
Brazdil, Linda C. Oxygenates in Gasoline: A Versatile Experiment Using Gas Chromatography. November, 1056.
Buccigross, Jeanne M.; Bedell, Cynthia M.; Suding-Moster, Heather L. Fluorescent Measurement of TNS Binding to Calmodulin: A Biochemistry Laboratory Experiment. March, 275.
Buccigross, Jeanne M.; Hayes II, Jerry W.; Metz, Christa S. Isolation and Purification of Calmodulin from Bovine Brain: A Biochemistry Experiment. March, 273.
Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.
Burness, James H. Oxygen from Hydrogen Peroxide: an Experimental Modification. (F&R) September, 851.
Burness, James H. A Convenient, Inexpensive, and Environmentally Friendly Method of Measuring the Vapor Pressure of a Liquid as a Function of Temperature. October, 967.
Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.
Charonnat, Jeffrey A.; Steinberg, Cathleen S. Microscale Synthesis of 2,3:5,6-Di-*O*-isopropylidene-α-D-mannofuranose ("Diacetone Mannose"). (ML) August, A170.
Chen, Carol; Dyer, Jeanne Murgado; Strawbridge, Patricia B. Report: 1996 Cost-Effective, Hands-On Chemistry Education Conference. October, A236.
Ciaccio, James A.; Volpi, Sabrina; Clarke, Ransford. Grignard Reaction of an Epoxide: A Mechanistic Study. December, 1196.
Clausen, Thomas P.; Johnson, Beverly; Wood, Jim. A Mixed Aldol Condensation-Michael Addition Experiment. March, 266.
Conte, Eric D.; Barry, Eugene F.; Rubinstein, Harry. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An Experiment for the Undergraduate Analytical Laboratory. December, 1169.
Craney, Chris; Mazzeo, April; Lord, Kaye. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.
Crossno, S. K.; Kalbus, L. H.; Kalbus, G. E. Determinations of Carbon Dioxide by Titration: New Experiments for General, Physical, and Quantitative Analysis Courses. February, 175.
Crumpton, D. M.; Laitinen, R. A.; Smieja, J.; Cleary, D. A. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.
Curtright, Robert; Rynearson, James A.; Markwell, John. Anthocyanins: Model Compounds for Learning about More than pH. April, 306.
Deal, S. Todd; Pope, Sandi R. Improved End Point Detection in the Redox Titration of Vitamin C in Green Peppers. June, 547.
DeGraff, Benjamin A.; Horner, David A. Luminescence Decay and Flash Photolysis Experiments Using an Inexpensive, Laser-Based Apparatus. March, 279.

Demirbas, Erhan; Devonshire, Robin. A Computer Experiment in Physical Chemistry: Linear Dichroism in Nematic Liquid Crystals. June, 586.

Dharmasiri, Kuruppu A. N.; Davenport, Michael; Regentin, Curtis M.; Holland, Jack F.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.

Dietz, Mark L.; Horwitz, E. Philip. An Improved Method for the Separation of Lead-210 from Ra-DEF for Radioactive Equilbrium Experiments: Microscale Liquid-Liquid Extraction Using a Polymer-Supported Crown Ether. February, 182.

Dobrev, Alexandre A. "Course Thesis" as End of the Laboratory Experimental Program. September, 856.

Dobrzynski, Edward D. Voltaic Cell Measurements on a Spot Plate with a Cotton Swab Bridge. (ML) January, A6.

Drew, Steven M. Integration of National Instruments' LabVIEW Software into the Chemistry Curriculum. December, 1107.

Elder, John W.; Holtz, Kathleen M. Microwave Microscale Organic Experiments. (ML) May, A104.

Elderd, Dianne M.; Kildahl, Nicholas K.; Berka, Ladislav H. Experiments for Modern Introductory Chemistry: Identification of Arson Accelerants by Gas Chromatography. July, 675.

Ems-Wilson, Janice. Following Microscale Organic Reactions Using FT–IR. (ML) August, A171.

Erickson, Luther E.; Morris, Kevin. A Physical Chemistry Lab Project: The Effect of Composition on Several Physical Properties of Binary Mixtures of Common Liquids. October, 971.

Fietkau, Roland; Ahuja, Eric. A "V" Groove Nebulizer for Flame AAS. January, 102.

Gallaher, Thomas N.; Gaul, David A.; Schreiner, Serge. The Esterification of Trifluoroacetic Acid: A Variable Temperature NMR Kinetics Study. May, 465.

Gammon, Steven D. Four Programs for Windows: Abstract of Volume 4D, Number 2: PSL Photometer. (JCE: Software) November, 1077.

Ganapathisubramanian, N. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.

García-Armada, Pilar; Losada, José; de Vicente-Pérez, Santiago. Cation Analysis Scheme by Differential Pulse Polarography. June, 544.

García-Doménech, R.; de Julián-Ortiz, J. V.; Antón-Fos, G. M.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.

Garin, David L.; Gamber, Melissa; Rowe, Bradley J. Epoxidation of Alpha-Methylstyrene and Its Lewis Acid Rearrangement to 2-Phenylpropanal. June, 555.

Gilmer, T. Carter; Williams, Matthew. Polymer Mechanical Properties via a New Laboratory Tensile Tester . November, 1062.

Goodrich, James; Durham, Bill. Interfacing "8088" Computers in the Chemistry Laboratory. (CBB) June, A131.

Gostowski, Rudy. Teaching Analytical Instrument Design with LabVIEW. December, 1103.

Green, David B.; Rechtsteiner, Gregory; Honodel, Amy. Determination of the Thermodynamic Solubility Product, $K_{sp}°$, of PbI_2 Assuming Nonideal Behavior: An Analytical Chemistry Experiment. August, 789.

Greenberg, Fred H. Microscale Preparation of Difluorenylidene and *trans*-2,3-Dibenzoylspiro[cyclopropane-1-9′-fluorene]. (ML) November, 1043.

Grossman, William E. L. QUNLAB: A Program for the Quantitative Analysis Laboratory. (CS #187) July, 611.

Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.

Haglund, Bert O.; Wurster, Dale Eric; Sundelöf, Lars-Olof; Upadrashta, Sathyanarayana M. Effect of SDS Micelles on Rhodamine-B Diffusion in Hydrogels. September, 889.

Hair, Sally R. An Introductory Dye Laser Experiment. (MODLAB) January, A7.

Hamilton, Jay R.; White, Jeffrey S.; Nakhleh, Mary B. Development of a Low-Cost Four-Color LED Photometer. November, 1052.

Hampp, Andreas. The Extraction of Caffeine from Tea: A Modification of the Procedure of Murray and Hansen. December, 1172.

Hansen, John C. The Iodide-Catalyzed Decomposition of Hydrogen Peroxide: A Simple Computer-Interfaced Kinetics Experiment for General Chemistry. (CS #188) August, 728.

Harris, Mary. A Simulated Growth Hormone Analysis. (F&R) August, 735.

Hauser, Peter C.; Cates, Norman E. An Inexpensive Detector for Absorbance Measurements in Flow-Injection Analysis. February, 191.

Hawcroft, David M. The Synthesis of Proteins—A Simple Experiment To Show the Procedures and Problems of Using Radioisotopes in Biochemical Studies. November, 1030.

Hayes II, Jerry W.; Taylor, Cynthia J.; Hotz, Richard P. Novel Preparation of a Tetraaza Macrocycle: An Advanced Inorganic Chemistry Laboratory. October, 991.

Hazra, N. K.; Mal, D. Micropath Distillation Apparatus. (ML) May, A103.

Helliwell, S.; Harden, T. J. Bacterial Toxicity Assessment Using Resazurin Reduction Kinetics: An Undergraduate Toxicity Experiment for the Chemistry-Biology Major. April, 368.

Hermann, Christine K. F. First Day in Organic Lab. September, 852.

Hernlem, Bradley J. A Versatile and Economical Automated Titration Apparatus. (CS #189) September, 878.

Hildebrand, Achim; Hilgers, Uwe; Blume, Rüdiger; Wiechoczek, Dagmar. Playing with the Soccer Ball—an Experimental Introduction to Fullerene Chemistry. November, 1066.

Hindmarsh, Kathryn; House, Donald A. An Easily Demonstrated Zero-Order Reaction in Solution. June, 585.

Hornack, Frederick M. Thermodynamics of Air: Reinterpreting the Method of Clement and Desormes. October, 965.

Johnson, Steven D. An Empirical Formula from Ion Exchange Chromatography and Colorimetry. December, 1179.

Kahley, Mary Jo; Novak, Michael. A Practical Procedure for Determining Rate Constants in Consecutive First-Order Systems. April, 359.

Kegley, Susan E.; Hansen, Kristen J.; Cunningham, Kevin L. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.

Kenkel, John. Committee on Chemistry in the Two-Year Colleges. October, A239.

Kennepohl, Dietmar. Home-Study Microlabs. October, 938.

Kerber, Robert C.; Akhtar, Mohammad J. Getting Real: A General Chemistry Laboratory Program Focusing on "Real World" Substances. (FORUM) November, 1023.

Khundkar, Lutfur R. Mass Ratio of the Deuteron and Proton from the Balmer Spectrum of Hydrogen: Variation on an Undergraduate Physical Chemistry Experiment. November, 1055.

Kiefer, Edgar F.; Takauye, Kenn M. Methylene-*bis*-amide (MBA) Derivatives for Characterization of Nitriles. February, 190.

Kolar, Patrik; Tišler, Miha. A Convenient Synthesis of the Tetrasubstituted Pyrrole: An Undergraduate Heterocyclic Laboratory Experiment. October, 986.

Kostecka, Keiin S.; Lerman, Zafra M.; Angelos, Sanford A. Use of Gas Chromatography—Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.

Kovács-Hadady, Katalin; Fábián, István. Are They Really Sloppy? A Comparative Analysis of Student Performance in the Laboratory. May, 461.

Krause, Josef G. Containment of Spray Reagents in TLC Spot Detection. October, 979.

Krieger, Albert G.; Henderson, John W. Notes on Vapor Pressure Equilibria Measurements. November, 1039.

Lark, B. S. A Paper Vernier Scale for Various Laboratory Equipment. February, 177.

Lawrence, Barbara A.; Zanella, Andrew W. A Simple Method for Producing A Mixture of Gaseous HCl and DCl for Measuring Their Vibrational-Rotational Spectra. April, 367.

Leber, Phyllis A.; Szczerbicki, Sandra K. Theme-Based Bidisciplinary Chemistry Laboratory Modules. (NSF) December, 1130.

Lederer, M.; Leipzig-Pagani, E. Thin-Layer Chromatography Experiments That Illustrate General Problems in Chromatography. October, 974.

Lee, Albert W. M.; Zengpei, Zhong. Staining TLC Plate Using a Cotton Ball. April, 358.

Lee, Moses. Determination of the Solution Conformation of 3′-Azido-3′-deoxythymidine-5′-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. February, 184.

Lee, Moses. Determination of the Solution Conformation of 3′-Azido-3′-deoxythymidine-5′-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. (Corrections) April, 382.

LeRoux, Xavier; Ottewill, Gerry A.; Walsh, Frank C. The Comparative Performance of Batteries: The Lead–Acid and the Aluminum–Air Cells. August, 811.

Levine, Samuel G. Dip Reagents for Visualization in TLC . (ML) January, A4.

Levine, Samuel G. TLC Developing Chamber for Screening Column Chromatography Fractions. January, 77.

Lisensky, George C.; Patel, Manish N.; Reich, Megan L. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.

Lötz, A. Multichannel DTA Apparatus for the Measurement of Phase Diagrams. February, 195.

Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Chromatographic Separation of Phosphoric Acid from Cola Beverages. December, 1172.

Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Determination of Phosphorus in Cola Drinks. December, 1173.

Lunelli, B. Phase Diagrams. (LTE) October, A228.

Mabrouk, Patricia Ann. The Modern Student Laboratory: Purification of Horse Heart Cyt

c by Ion Exchange. (MODLAB) July, A149.
Magner, John T.; Selke, Matthias; Russell, Arlene A.; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.
Maier, Mary L. Polymer Science Pilot Program. July, 643.
Malerich, Charles J. A Microscale Conductance Assay of Total Electrolyte Concentration in Animal Tissue. (ML) June, A127.
Manfredi, K. P.; McGrew, L. A. Preparation and Properties of a Stable Organic Cation: A Microscale Experiment for Organic Chemistry. (ML) June, A124.
Markow, Peter G. Determining the Lead Content of Paint Chips: An Introduction to AAS. February, 178.
Marriott, Philip J.; Carpenter, Peter D. Capillary Gas Chromatography Injection: An Exercise for Students of Instrumental Analysis. January, 96.
Marsh, Diane F.; Mink, Larry M. Microscale Synthesis and Electronic Absorption Spectroscopy of Tetraphenylporphyrin H_2(TPP) and Metalloporphyrins Zn^{II}(TPP) and Ni^{II}(TPP). (ML) December, 1188.
Mason, P. K.; Sarquis, A. M.; Williams, J. P. Take-Home Challenges: Extending Discovery-Based Activities beyond the General Chemistry Classroom. (NSF) April, 337.
McClure, Cynthia K.; Chenault, H. Keith. Chemoenzymatic Synthesis of an Enantiomerically Pure Lactone: A Three-Step Synthesis for Undergraduate Organic Chemistry Laboratory. May, 467.
McGoran, Ernest C.; Melton, Cameron; Taitch, Darren. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.
McNeese, Timothy J.; Ezbiansky, Karin A. Photochemical Preparation and Reactivity of *cis*-$Cr(CO)_4(CH_3CN)_2$: An Advanced Undergraduate Inorganic Laboratory Experiment. June, 548.
Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. (Corrections) November, A262.
Miles, William H.; Nutaitis, Charles F.; Anderton, Christian A. Iron(III) Chloride as a Lewis Acid in the Friedel–Crafts Acylation Reaction. March, 272.
Mills, Nancy S. Complete Assignment of Proton Chemical Shifts in Terpenes: An Experiment Combining 2D NMR Spectroscopy with Molecular Modeling. December, 1190.
Mina-Camilde, Nairmen; Manzanares I., Carlos; Caballero, Julio F. Molecular Constants of Carbon Monoxide at $v = 0, 1, 2$, and 3: A Vibrational Spectroscopy Experiment in Physical Chemistry. August, 804.
Mocellin, E.; Ravera, M.; Russell, R. A.; Hynson, T. Over 100 Years of Research on Cyclopentadienylironcarbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.
Moeur, Harriet P.; Pinnell, Robert P. Use of the Disposable IR Card in the Organic Chemistry Laboratory. April, 371.
Morgan, Chad; Moir, Neil. Rapid Microscale Isolation and Purification of Yeast Alcohol Dehydrogenase Using Cibacron Blue Affinity Chromatography. (ML) November, 1040.
Morris, Kevin F.; Erickson, Luther E. NMR Determination of Internal Rotation Rates and Rotational Energy Barriers: A Physical Chemistry Lab Project. May, 471.
Mosher, Michael D.; Kelly, Chad O.; Mosher, Melvyn W. Examination of a Reaction Mechanism by Polarimetry: An Experiment for the Undergraduate Organic Chemistry Laboratory. June, 567.
Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.
Mossman, Daniel M., Kooser, Robert G.; Welch, Lawrence. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.
Motyka, Andrea L. An Introduction to Rheology with an Emphasis on Application to Dispersions. April, 374.
Muenter, John S. The Helium–Neon Laser-Induced Fluorescence Spectrum of Molecular Iodine: An Undergraduate Laboratory Experiment. June, 576.
Muenter, John S.; Deutsch, John L. The Nitrogen-Laser Excited Luminescence of Pyrene: A Student Laboratory Study of Excimer Dynamics. June, 580.
Muyskens, Mark A.; Glass, Samuel V.; Wietsma, Thomas W.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.
Narayanan, V. Anantha; Narayanan, Radha. Low-Cost Lateral Displacement Refractometer for Liquids: A Take-Home Student Experiment. August, 784.
Nash, John J.; Meyer, Jeanne A. R; Nurrenbern, Susan C. Waste Treatment in the Undergraduate Laboratory: Let the Students Do It! December, 1183.
Nibler, Joseph W.; Minarik, Philip; Fitta, William; Kohnert, Rodger. Gas-Phase NMR Study of the DCl–HBr Isotope Exchange Reaction. January, 99.
Nolan, William T.; Gish, Thaddeus J. The Joys of Liquid Nitrogen. (CK) July, 651.
Nuhrich, Alain; Varache-Lembège, Martine; Lacan, Fabrice; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.
O'Brien, L. C.; Kubicek, R. L. Binding-Energy Curve for Iodine Using Laser Spectroscopy. January, 86.
Ogren, Paul J.; Jones, Thomas P. Laboratory Interfacing Using the LabVIEW Software Package. (CBB) December, 1115.
Okumura, Mitchio; Beauchamp, Jesse L.; Dickert, Jeffrey M.; Easy, Blair R.; Claypool, Christopher L. Undergraduate Laboratory for Surface Science. (NSF) February, 142.
Olander, Claire R. An n-Bottle Lab Exercise with No Hazardous Waste. September, 849.
Onami, Tetsuo; Kanazawa, Hitoshi. A Simple Method for Isolation of Caffeine from Black Tea Leaves: Use of a Dichloromethane-Alkaline Water Mixture as an Extractant. June, 556.
Organ, Michael G.; Anderson, Paul. Carbonyl and Conjugate Additions to Cyclohexenone: Experiments Illustrating Reagent Selectivity. December, 1193.
Ortega, Fernando; Velez, Ernesto; Somanathan, Ratnassamy. The Modern Student Laboratory: Chromatography Synthesis and Use of Reverse-Phase Silica Gel for HPLC in Undergraduate Chemistry. (MODLAB) February, A26.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.
Pattacini, Silvio C. Use of a 10-cm Pathlength Quartz Cell for the Separation of the Isotopes of HCl Vapor. August, 822.
Petersen, Quentin R. The Use of a "Qual" Centrifuge for Greatly Simplifying and Speeding the Study of Milk. September, 848.
Peterson, Jim. Fluorometric Determination of Aluminum: A Quantitative Experiment for the Instrumental Analysis Laboratory. March, 262.
Pinto, Gabriel. Testing the Electrical Resistivity of Wax and Copper Composites. July, 683.
Plumsky, Roger. Transmuted Labs. (VIEW) May, 451.
Poiré, C.; Rabiller, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Pojman, John A.; West, William W. A Unified Physical Chemistry Laboratory Based on Oscillating Reactions and Traveling Fronts. (NSF) January, 35.
Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.
Probst, Donald A.; Henderson, Giles. Zinc Electrodes and the Thermodynamics of a Galvanic Cell. October, 962.
Quigley, Michael N.; Vernon, Frederick. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.
Quigley, Michael N.; Vernon, Frederick. A Matrix Modification Experiment for Use in Electrothermal Atomic Absorption Spectrophotometry. October, 980.
Quist, Per-Ola. Simple NMR Imaging. August, 751.
Ramachandran, B. R.; Allen, John M.; Halpern, Arthur M. Air–Water Partitioning of Environmentally Important Organic Compounds: An Environmental Chemistry or Integrated Laboratory Experiment. November, 1058.
Ramachandran, B. R.; Halpern, Arthur M. Chemical Kinetics in Real Time: Using the Differential Rate Law and Discovering the Reaction Orders. July, 686.
Ratna, Shashi Saxena; Upadhyay, Pramod. A Simple and Low-Cost Air Sampler. August, 787.
Rees, Thomas. Homeowner's Test for Lead in the Paint. July, 670.
Reilly, Thomas J. Removing Silicone Greases from Round Bottom Flasks. April, 381.
Risley, John M. An Organoleptic Laboratory Experiment. December, 1181.
Roberts, J. L.; Selco, J. I.; Wacks, D. B. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.
Robinson, Rolland K.; De Jesus, Karl. The Mechanism of $NaBH_4$ Addition to Aldehydes: A Labelling Experiment. March, 264.
Rocha, Fábio R. P.; Nóbrega, Joaquim A. Effects of Solution Physical Properties on Copper and Chromium Signals in Flame Atomic Absorption Spectrometry. October, 982.
Rogers, Paul W. A Simplified Procedure for Dipeptide Sequence Analysis in the Undergraduate Laboratory. February, 189.
Saieed, Alfred E.; Davies, Keith M. A Simple Method for Determining the Temperature Coefficient of Voltaic Cell Voltage. (F&R) October, 959.

Sattsangi, Prem D. Air Stream-Assisted Sublimation on a Microscale: A Rapid Procedure Suitable for Sophomore Laboratory. (ML) January, A3.
Schäffer, Susan Cline; Schäffer, Claus E. Fundamental Issues of Thermodynamics Illuminated by Conspicuous Inorganic Chemistry: Oxidation of $[Co(H_2O)_6]^{2+}$ to $[Co(H_2O)_6]^{3+}$ by Hydrogen Peroxide: A Nonspontaneous Redox Reaction Made Feasible by Thermodynamic Coupling. February, 180.
Schallies, Michale; Schnelle, Hans-Otto; Kunze, Klaus. The Use of PTFE Membranes for the Construction of Semimicroscale Gas Reactors. (ML) June, A128.
Schatz, Paul F. Bromination of Acetanilide. March, 267.
Schmedake, Thomas A.; Welch, Lawrence E. The Quantitative Analysis of an Analgesic Tablet: An NMR Experiment for the Instrumental Analysis Course. November, 1045.
Scott, Jacqueline L.; Gammon, Steven D.; Cannon, John F.; Hunsberger, Lynn R. Beer's Law: A Computerized Experiment. (JCE: Software) April, 324.
Seckin, Turgay; Kormali, Suphi M. An-Easy-to-Build Rotational Viscometer with Digital Readout. February, 193.
Sen, Stephanie E.; Aniker, Keith S. ^1H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.
Shaw, Roosevelt; Hokmabadi, Mohammad. Raman Spectroscopic Determination of Heats of Vaporization of Pure Liquids. May, 474.
Sih, John C. A Consistent System for Coding Labratory Samples. July, 693.
Silberman, Robert G. Solubility and Thermodynamics: An Introductory Experiment. (F&R) May, 426.
Snow, Nicholas H. Determination of Free-Energy Relationships Using Gas Chromatography. June, 592.
Solomon, Sally; Hur, Chinyu; Lee, Alan; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.
Soran, Patrick D.; Neal, Everett E.; Smith, Barbara; Mullen, Ken I. On-Line Surfactant Monitoring by Foam Generation. August, 819.
Sproch, Norman; Begin, Kelly J.; Morris, Robert J. The Modern Student Laboratory: Chromatography: An LC/Particle Beam/MS Experiment for Undergraduates. (MODLAB) February, A33.
Strizhak, Peter; Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. September, 868.
Sullins, D. W.; Denton, T. T.; Eisenbraun, E. J. Soxhlet Apparatus and Chromatography Columns Combined. April, 380.
Sundback, Karen A. Testing for Lead in the Environment. (F&R) July, 669.
Swartz, James E.; Schladetzky, Kurt. Experimental Illustration of the Utility of Lewis Structures: An FTIR Experiment for Introductory Chemistry. February, 188.
Swim, James; Earps, Edward; Reed, Laura M.; Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.
Taber, Douglass F.; Meagley, Robert P.; Supplee, Danielle. A Colorful Grignard Reaction: Preparation of the Triarylmethane Dyes from 4-Bromo-N,N-Dimethylaniline. March, 259.
Taber, Douglass F.; Wang, Yanong; Liehr, Sebastian. Mini-scale Oxidation/Reduction in Organic Laboratory Course: 4-Nitrobenzaldehyde/4-Nitrobenzyl Alcohol. (ML) November, 1042.
Toorkey, R. F.; Rajanna, K. C.; Prakash, P. K. Sai. Curing of Unsaturated Polyester: Network Formation. April, 372.
Torres, Luz María; Gil, Adrián F.; Galicia, Laura; González, Ignacio. Understanding the Difference between Inner- and Outer-Sphere Mechanisms: An Electrochemical Experiment. August, 808.
Treadway, Jr., William J. The Multimedia Chemistry Laboratory: Perception and Performance. (CS #189) September, 876.
Varco-Shea, Theresa C.; Darlington, Jeanne; Turnbull, Marilyn. Group Project Format in First-Semester General Chem Lab. June, 536.
Wang, Joseph; Maccà, Carlo. Use of Blood-Glucose Test Strips for Introducing Enzyme Electrodes and Modern Biosensors. August, 797.
Williams, Darren L.; Minarik, Phillip R.; Nibler, Joseph W. PC Calculations Using Gaussian for Windows. (CS #187) July, 608.
Wojciechowski, Brenda J.; Deal, S. Todd. From Lecture Hall to the Laboratory: The Pinacol Rearrangement: Fostering Problem Solving Abilities and Critical Thinking Skills of the Organic Chemistry Student. January, 85.
Wolfson, Adele J.; Hall, Mona L.; Branham, Thomas R. An Integrated Biochemistry Laboratory, Including Molecular Modeling. November, 1026.
Wood, John T.; Eddy, Roberta M. Olfactory Titration. (F&R) March, 257.
Wood, John T.; Eddy, Roberta M. What's the Shiny Stuff in Drano? (F&R) May, 463.
Zimmerman, John; Jacobsen, Jerrold J. Quantitative Techniques in Volumetric Analysis. (JCE: Software) December, 1117.

LabVIEW

Drew, Steven M. Integration of National Instruments' LabVIEW Software into the Chemistry Curriculum. December, 1107.
Gostowski, Rudy. Teaching Analytical Instrument Design with LabVIEW. December, 1103.
Muyskens, Mark A.; Glass, Samuel V.; Wietsma, Thomas W.; Gray, Terry M. Data Acquisition in the Chemistry Laboratory Using LabVIEW Software. (CBB) December, 1112.
Ogren, Paul J.; Jones, Thomas P. Laboratory Interfacing Using the LabVIEW Software Package. (CBB) December, 1115.

Lasers/Laser Spectroscopy

DeGraff, Benjamin A.; Horner, David A. Luminescence Decay and Flash Photolysis Experiments Using an Inexpensive, Laser-Based Apparatus. March, 279.
Hair, Sally R. An Introductory Dye Laser Experiment. (MODLAB) January, A7.
Jasien, Paul G. A Cheaper Laser Source for Beer's Law Experiments. (LTE) March, 286.
Lehman, Thomas A.; Pauls, Steven W. A Cheaper Laser Source for Beer's Law Experiments. (LTE) March, 286.
Mossman, Daniel M.; Kooser, Robert G.; Welch, Lawrence. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.
Muenter, John S. The Helium–Neon Laser-Induced Fluorescence Spectrum of Molecular Iodine: An Undergraduate Laboratory Experiment. June, 576.
Muenter, John S.; Deutsch, John L. The Nitrogen-Laser Excited Luminescence of Pyrene: A Student Laboratory Study of Excimer Dynamics. June, 580.
O'Brien, L. C.; Kubicek, R. L. Binding-Energy Curve for Iodine Using Laser Spectroscopy. January, 86.
Thomas, Eugene. Laser Pointer and the Tyndall Effect. May, 470.

Lead

Dietz, Mark L.; Horwitz, E. Philip. An Improved Method for the Separation of Lead-210 from Ra-DEF for Radioactive Equilbrium Experiments: Microscale Liquid-Liquid Extraction Using a Polymer-Supported Crown Ether. February, 182.
Markow, Peter G. Determining the Lead Content of Paint Chips: An Introduction to AAS. February, 178.
Rees, Thomas. Homeowner's Test for Lead in the Paint. July, 670.
Sundback, Karen A. Testing for Lead in the Environment. (F&R) July, 669.

Liquid Crystals

Demirbas, Erhan; Devonshire, Robin. A Computer Experiment in Physical Chemistry: Linear Dichroism in Nematic Liquid Crystals. June, 586.

Liquids

Baonza, Valentín García; Cáceres, Mercedes; Núñez, Javier. Mechanical Coefficients of Liquids by a Differential Expansion Method: A Physical Chemistry Experiment. July, 690.
Bravo-Díaz, Carlos; González-Romero, Elisa. Showing Emulsion Properties with Common Dairy Foods. September, 844.
Dai, Sheng. Correct Regression Formula Used in Determination of Vaporization Enthalpy of Pure Liquids by UV-Visible Spectroscopy. February, 122.
Motyka, Andrea L. An Introduction to Rheology with an Emphasis on Application to Dispersions. April, 374.
Narayanan, V. Anantha; Narayanan, Radha. Low-Cost Lateral Displacement Refractometer for Liquids: A Take-Home Student Experiment. August, 784.
Ramachandraiah, Alhikayala. A No-Cost Model of Liquid Structure. (AA) January, 59.
Seckin, Turgay; Kormali, Suphi M. An-Easy-to-Build Rotational Viscometer with Digital Readout. February, 193.

Luminescence

DeGraff, Benjamin A.; Horner, David A. Luminescence Decay and Flash Photolysis Experiments Using an Inexpensive, Laser-Based Apparatus. March, 279.
Lisensky, George C.; Patel, Manish N.; Reich, Megan L. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.
Muenter, John S.; Deutsch, John L. The Nitrogen-Laser Excited Luminescence of Pyrene: A Student Laboratory Study of Excimer Dynamics. June, 580.
Swisher, Ron; Richmond, G. L.; Sercel, Peter C. Porous Silicon and the Search for a Silicon-Based LED. August, 738.

Magnetic Properties

Teweldemedhin, Z. S.; Fuller, R. L.; Greenblatt, M. Magnetic Susceptibility Measurements of Solid Manganese Compounds with Evan's Balance. September, 906.

Manganese

Teweldemedhin, Z. S.; Fuller, R. L.; Greenblatt, M. Magnetic Susceptibility Measurements of Solid Manganese Compounds with Evan's Balance. September, 906.

Mass Spectrometry

Amenta, D. S.; DeVore, T. C.; Gallaher, T. N.; Zook, C. M.; Mosbo, J. A. GS-MS and GC–FTIR Characterization of Products: From Classical Freshman and Sophomore Syntheses. June, 572.

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.

Chen, Wen; Orna, O.S.U., Mary Virginia. Recent Advances in Archaeological Chemistry: A Summary of Three Major Papers Presented as an Introduction to the Archaeological Chemistry Symposium, Anaheim, California. June, 485.

Dharmasiri, Kuruppu A. N.; Davenport, Michael; Regentin, Curtis M.; Holland, Jack F.; Watson, J. Throck. A Simple Digital Interface for the HP 5985 Mass Spectrometer using a Personal Computer. (CS #189) September, 881.

Guisto-Norkus, Rebecca; Gounili, Giv; Wisniecki, Peter; Hubball, John A.; Smith, S. Ruven; Stuart, James D. An Environmentally Significant Experiment Using GC/MS and GC Retention Indices in an Undergraduate Analytical Laboratory. December, 1176.

Hofstadler, Steven A.; Bakhtiar, Ray; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part I. Instrumentation and Spectral Interpretation (CI) . April, A82.

Hop, Cornelius E. C. A.; Bakhtiar, Ray. Electrospray Ionization Mass Spectrometry: Part III: Applications in Inorganic Chemistry and Synthetic Polymer Chemistry. (TCI) August, A162.

Kostecka, Keith S.; Lerman, Zafra M.; Angelos, Sanford A. Use of Gas Chromatography-Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.

Leary, James J.; Schmidt, Rebecca L. Quadrupole Mass Spectrometers: An Intuitive Look at the Math. December, 1142.

McGoran, Ernest C.; Melton, Cameron; Taitch, Darren. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.

Sproch, Norman; Begin, Kelly J.; Morris, Robert J. The Modern Student Laboratory: Chromatography: An LC/Particle Beam/MS Experiment for Undergraduates. (MODLAB) February, A33.

Materials Science

Beall, Herbert. Report on the WPI Conference: General Chemistry and Materials Science: The Interrelationships. August, 756.

Dev, Vasu. Report of the CACT Summer Conference. February, 148.

Gilmer, T. Carter; Williams, Matthew. Polymer Mechanical Properties via a New Laboratory Tensile Tester . November, 1062.

Motyka, Andrea L. An Introduction to Rheology with an Emphasis on Application to Dispersions. April, 374.

Ophardt, Charles E. Inorganic Molecules: A Visual Data Base. (JCE: Software) March, 246.

Winder, Edmund J.; Ellis, Arthur B.; Lisensky, George C. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.

Mechanisms

Alvarez J., Galvez; Roca R. M., Soler. A Simple Algorithm for the Distinction of Reaction Mechanisms Based on the Measurement of Additive Properties. March, 214.

Ciaccio, James A.; Volpi, Sabrina; Clarke, Ransford. Grignard Reaction of an Epoxide: A Mechanistic Study. December, 1196.

Luckenbaugh, Raymond W. Undergraduate Organic Chemistry Laboratory Safety. November, 1083.

Mosher, Michael D.; Kelly, Chad O.; Mosher, Melvyn W. Examination of a Reaction Mechanism by Polarimetry: An Experiment for the Undergraduate Organic Chemistry Laboratory. June, 567.

Robinson, Rolland K.; De Jesus, Karl. The Mechanism of $NaBH_4$ Addition to Aldehydes: A Labelling Experiment. March, 264.

ten Hoor, Marten J. The Formation of Urea: Controversies and Confusion. January, 42.

Tidwell, Thomas T. The Electrophilic Addition to Alkynes Revisited. November, 1061.

Weiss, Hilton M. Further Comments upon the Electrophilic Addition to Alkynes: A Response to Criticism from Professor Thomas T.Tidwell. November, 1082.

Medicinal Chemistry

Letkeman, Peter. Computer-Modelling of Metal Speciation in Human Blood Serum. (CS #182) February, 165.

Nuhrich, Alain; Varache-Lembège, Martine; Lacan, Fabrice; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.

Scimone, Anthony; Scimone, Angelina A. The Importance of Undergraduate General and Organic Chemistry to the Study of Biochemistry in Medical School. December, 1153.

Senozan, N. M.; Devore, J. A. Carbon Monoxide Poisoning: Some Surprising Aspects of the Equilibrium between Hemoglobin, Carbon Monoxide, and Oxygen. August, 767.

Thall, Edwin. When Drug Molecules Look in the Mirror. June, 481.

Metal Carbonyls

McNeese, Timothy J.; Ezbiansky, Karin A. Photochemical Preparation and Reactivity of *cis*-$Cr(CO)_4(CH_3CN)_2$: An Advanced Undergraduate Inorganic Laboratory Experiment. June, 548.

Metals

Adams, David L. Metal Hydrides and the Dawn of the Atomic Age. March, 205.

Arnáiz, Francisco J. Activity Series of Metals. (LTE) October, A225.

Masson, Bernard L. X-ray Powder Diffraction Simulation with a Microcomputer. (CS #190) October, 918.

Pinto, Gabriel. Testing the Electrical Resistivity of Wax and Copper Composites. July, 683.

Smith, Derek W. Stability Index Diagrams: Pictorial Representations of the Relative Stabilities of Oxidation States for Metallic Elements. November, 1099.

Tudela, David. Activity Series of Metals. (LTE) October, A225.

Micelles

Bachofer, Steven J. Conductivity, a Simple Method To Probe Micellar Solutions. September, 861.

Haglund, Bert O.; Wurster, Dale Eric; Sundelöf, Lars-Olof; Upadrashta, Sathyanarayana M. Effect of SDS Micelles on Rhodamine-B Diffusion in Hydrogels. September, 889.

Hill, John W. Musk Oxen and Micelles . (AA) September, 847.

Mazzacco, Charles J. The Effect of Solvent and Micelles on the Rate of Excited-State Deprotonation. (TD) March, 254.

Microscale

Almy, John; Herrera, Antonio; Martín, Nazario; Seoane, Carlos; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro[6,6]C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.

Anderson, Guy E. Small Scale Electrolytic Cells. (ML) August, A172.

Anderson, Guy E. A Simpler Small Scale Method for the Identification of Plastics. (ML) August, A173.

Arnáiz, Francisco J. Easy Filling of Capillaries in an Inert Atmosphere. (ML) May, A102.

Arnáiz, Francisco J. The Synthesis of [Pd(μ-Cl)(C_6H_4N=NPh)]$_2$. (ML) June, A126.

Bedell, Brooke L.; Crouch, R. David; Holden, Michael S.; Martinson, Heidi E. A Glycosidation Reaction Employing Montmorillonite K-10 as Catalyst. (ML) November, 1041.

Braga, Fernando G. Inexpensive Small-Scale Sonochemistry with Magnetic Agitation. (ML) May, A104.

Branca, Mario; Loiselle, Steven. A Manageable Measurement Method for Sodium. September, 857.

Charonnat, Jeffrey A.; Steinberg, Cathleen S. Microscale Synthesis of 2,3:5,6-Di-*O*-isopropylidene-α-D-mannofuranose ("Diacetone Mannose"). (ML) August, A170.

Chen, Carol; Dyer, Jeanne Murgado; Strawbridge, Patricia B. Report: 1996 Cost-Effective, Hands-On Chemistry Education Conference. October, A236.

Dietz, Mark L.; Horwitz, E. Philip. An Improved Method for the Separation of Lead-210 from Ra-DEF for Radioactive Equilbrium Experiments: Microscale Liquid-Liquid Extraction Using a Polymer-Supported Crown Ether. February, 182.

Dobrzynski, Edward D. Voltaic Cell Measurements on a Spot Plate with a Cotton Swab Bridge. (ML) January, A6.

Elder, John W.; Holtz, Kathleen M. Microwave Microscale Organic Experiments. (ML) May, A104.

Ems-Wilson, Janice. Following Microscale Organic Reactions Using FT–IR. (ML) August, A171.

Harris, Mary. A Simulated Growth Hormone Analysis. (F&R) August, 735.

Harvey, T. G. Acyclic Saturated Ketones. (LTE) December, A295.

Hazra, N. K.; Mal, D. Micropath Distillation Apparatus. (ML) May, A103.

Kennepohl, Dietmar. Home-Study Microlabs. October, 938.

Levine, Samuel G. Dip Reagents for Visualization in TLC. (ML) January, A4.

Malerich, Charles J. A Microscale Conductance Assay of Total Electrolyte Concentration in Animal Tissue. (ML) June, A127.

Manfredi, K. P.; McGrew, L. A. Preparation and Properties of a Stable Organic Cation: A Microscale Experiment for Organic Chemistry. (ML) June, A124.

Marsh, Diane F.; Mink, Larry M. Microscale Synthesis and Electronic Absorption Spectroscopy of Tetraphenylporphyrin H_2(TPP) and Metalloporphyrins Zn^{II}(TPP) and Ni^{II}(TPP). (ML) December, 1188.

Mocellin, E.; Ravera, M.; Russell, R. A.; Hynson, T. Over 100 Years of Research on Cyclopentadienylironcarbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.

Morgan, Chad; Moir, Neil. Rapid Microscale Isolation and Purification of Yeast Alcohol Dehydrogenase Using Cibacron Blue Affinity Chromatography. (ML) November, 1040.

Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-

2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.
Rowland, Alex T. Acryclic Saturated Ketones. (LTE) December, A296.
Sattsangi, Prem D. Air Stream-Assisted Sublimation on a Microscale: A Rapid Procedure Suitable for Sophomore Laboratory. (ML) January, A3.
Schallies, Michale; Schnelle, Hans-Otto; Kunze, Klaus. The Use of PTFE Membranes for the Construction of Semimicroscale Gas Reactors. (ML) June, A128.
Sen, Stephanie E.; Aniker, Keith S. ^{1}H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.
Taber, Douglass F.; Wang, Yanong; Liehr, Sebastian. Mini-scale Oxidation/Reduction in Organic Laboratory Course: 4-Nitrobenzaldehyde/4-Nitrobenzyl Alcohol. (ML) November, 1042.

Minorities in Chemistry

Nocera, Daniel G.; Harrison, James F.; Reed, Dorothy A.; Roberts, Charles H. Enhanced Performance in Chemistry by Minorities at the University Level: A Comprehensive Program. December, 1131.
Thomas, Oleta M. Inner City Students. (LTE) October, A228.
Zumdahl, Susan Arena. Mission Impossible? Improving Retention of Science Majors among Minorities and Women. November, A266.

MO Theory

Campbell, Mark L. A Systematic Method for Determining Molecular Term Symbols for Diatomic Molecules Using Uncoupled-States Orbital Diagrams. August, 749.
Ochiai, Ei-Ichiro. CO, N_2, NO, and O_2—Their Bioinorganic Chemistry: Principles and Applications in Bioinorganic Chemistry-VIII. February, 130.
Sharma, Brahama D. Molecular Orbital (Hückel) Theory and Linus Pauling: A Historical Perspective. August, 746.
Sotiriou-Leventis, Chariklia; Hanna, Samir B.; Leventis, Nicholas. Relative Stabilities and Reactivities of Isolated versus Conjugated Alkenes: Reconciliation via a Molecular Orbital Approach. April, 295.

Molecular Modeling/Dynamics

Bakalbassis, E. G.; Stiakaki, M.-A. D.; Tsipis, A. C.; Tsipis, C. A. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.
Childs, Scott L.; Hagen, Karl S. The Inorganic Illustrator: A 3-D Graphical Supplement for Inorganic and Bioinorganic Chemistry Courses Distributed on CD-ROM. (NSF) October, 917.
Comba, Peter; Zimmer, Marc. Inorganic Molecular Mechanics. February, 108.
Crouch, R. David; Holden, Michael S.; Samet, Cindy. CAChe Molecular Modeling: A Visualization Tool Early in the Undergraduate Chemistry Curriculum. (NSF) October, 916.
Hill, John W. Tape and Tetrahedra. June, 531.
Kim, Jae Hyun. Four Programs for Windows: Abstract of Volume 4D, Number 2: Alkanes in Motion. (JCE: Software) November, 1079.
Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP) : An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. February, 184.
Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP) : An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. (Corrections) April, 382.
Mills, Nancy S. Complete Assignment of Proton Chemical Shifts in Terpenes: An Experiment Combining 2D NMR Spectroscopy with Molecular Modeling. December, 1190.
Novak, Igor. Chemical Enumeration with Mathematica. (Corrections) August, 737.
Sauers, Ronald R. Steric Attraction: The Far Side. February, 114.
Wolfson, Adele J.; Hall, Mona L.; Branham, Thomas R. An Integrated Biochemistry Laboratory, Including Molecular Modeling. November, 1026.

Molecular Properties/Structure

Anderson, Guy E. A Simpler Small Scale Method for the Identification of Plastics. (ML) August, A173.
Birk, James P.; Abbassian, Soraya. Teaching VSEPR: The Plastic Egg Model. July, 636.
Burness, James H. A Convenient, Inexpensive, and Environmentally Friendly Method of Measuring the Vapor Pressure of a Liquid as a Function of Temperature. October, 967.
Chowdhury, Mihir. Selection Rules for Processes Involving Photon–Molecule Interaction: A Symmetry-Conservation-Based Approach Bypassing Transition Matrix Elements. August, 743.
Clausen, Thomas P.; Johnson, Beverly; Wood, Jim. A Mixed Aldol Condensation-Michael Addition Experiment. March, 266.
Eliel, Ernest L.; Engelsman, Jan J. The Heats of Combustion of Gaseous Cyclotetradecane and *trans*-Stilbene—A Tale of Long-standing Confusion. September, 903.
Erickson, Luther E.; Morris, Kevin. A Physical Chemistry Lab Project: The Effect of Composition on Several Physical Properties of Binary Mixtures of Common Liquids. October, 971.
Furio, Carlos; Calatayud, Mª Luisa. Difficulties with the Geometry and Polarity of Molecules: Beyond Misconceptions. January, 36.
Gilmer, T. Carter; Williams, Matthew. Polymer Mechanical Properties via a New Laboratory Tensile Tester. November, 1062.
Hauck, Christian. An Excel 4.0 Add-in Function To Calculate Molecular Mass. (CS #185) May, 433.
Hernandez, Sandra A.; Rodriguez, Nora M.; Quinzani, Oscar V. An Easily Constructed and Versatile Molecular Model. August, 748.
Hill, John W. Tape and Tetrahedra. June, 531.
Hoffmann, Roald. Teach To Search: ACS 1996 Pimentel Award. September, A202.
King, R. B. The Shapes of Coordination Polyhedra. October, 993.
Laing, Michael. Bring Back Equivalent Weight—*If You Want the Kids To "Think"!* November, 1007.
Lee, Albert W.M.; Leung, K.M.; Kwong, Daniel W.J.; Chan, C.L. Symmetry Elements and Operations. (JCE: Software) October, 924.
McGoran, Ernest C.; Melton, Cameron; Taitch, Darren. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.
Motyka, Andrea L. An Introduction to Rheology with an Emphasis on Application to Dispersions. April, 374.
Novak, Igor. Chemical Enumeration with Mathematica. February, 120.
Ophardt, Charles E. Inorganic Molecules: A Visual Data Base. (JCE: Software) March, 246.
Pinto, Gabriel. Testing the Electrical Resistivity of Wax and Copper Composites. July, 683.
Rich, Ronald L. Boiling Point and Molecular Weight. (LTE) December, A294.
Sauers, Ronald R. Steric Attraction: The Far Side. February, 114.
Smith, Derek W. Simple Treatment of the Symmetry Labels for the *d-d* States of Octahedral Complexes. June, 504.
Vázquez-Vidal, Luis. MOLSYM: A Program on Molecular Symmetry and Group Theory. (CS #184) April, 321.
Warnhoff, E. W. The Curiously Intertwined Histories of Benzene and Cyclohexane. June, 494.
Wiberg, Kenneth B. The Role of Electrostatic Effects in Organic Chemistry. November, 1089.

Multimedia

Childs, Scott L.; Hagen, Karl S. The Inorganic Illustrator: A 3-D Graphical Supplement for Inorganic and Bioinorganic Chemistry Courses Distributed on CD-ROM. (NSF) October, 917.
Jacobsen, Erica Bode; Jacobsen, Jerrold J.; Wright, J. Monty. HIV-1 Protease: An Enzyme at Work. (JCE: Software) January, 63.
JCE: Online. Nonprint Resources of the *Journal* http://jchemed.chem.wisc.edu/. (JCE: Software) May, 436.
Lee, Albert W.M.; Leung, K.M.; Kwong, Daniel W.J.; Chan, C.L. Symmetry Elements and Operations. (JCE: Software) October, 924.
Lisensky, George C.; Ellis, Arthur B. Journal of Chemical Education: Software: Abstract for Special Issue Number 12: The Solid State Resources CD. (JCE: Software) July, 667.
Martin, John S. SIRs: Simulations and Interactive Resources, III. (JCE: Software) August, 722.
Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.
Mounts, Richard D. Chemistry on the Web. (CS #181) January, 68.
Smith, Stanley; Stovall, Iris. Networked Instructional Chemistry: Using Technology To Teach Chemistry. October, 911.
Tissue, Brian M.; Earp, Ronald L.; Yip, Ching-Wan; Anderson, Mark R. Development and Evaluation of Internet-Based Hypermedia Chemistry Tutorials. (NSF) May, 446.
Treadway, Jr., William J. The Multimedia Chemistry Laboratory: Perception and Performance. (CS #189) September, 876.
Zimmerman, John; Jacobsen, Jerrold J. Quantitative Techniques in Volumetric Analysis. (JCE: Software) December, 1117.

Natural Products

Curtright, Robert; Rynearson, James A.; Markwell, John. Anthocyanins: Model Compounds for Learning about More than pH. April, 306.
Dennison, Shelagh T.; Harrowven, David C. Cascade Sequences in Organic Synthesis: A Lesson from Nature? August, 697.
Kanda, N.; Asano, T.; Itoh, T.; Onoda, M. Preparing "Chameleon Balls" from Natural Plants: Simple Handmade pH Indicator and Teaching Material for Chemical Education. (Corrections) May, 425.
Onami, Tetsuo; Kanazawa, Hitoshi. A Simple Method for Isolation of Caffeine from Black Tea Leaves: Use of a Dichloromethane-Alkaline Water Mixture as an Extractant. June, 556.

Nickel

Berry, David E.; Girard, Suzanne; McAuley, Alexander. The Synthesis and Reactions of Nickel(III) Stabilized by a Nitrogen-Donor Macrocycle. June, 551.

Nitrogen

Nolan, William T.; Gish, Thaddeus J. The Joys of Liquid Nitrogen. (CK) July, 651.

NMR Spectrometry

Bautista, Maria T.; Bynum, Lynikka D.; Schauer, Cynthia K. Synthesis of η^2-Dihydrogen Complex, *trans*-[Fe(η^2-H_2)(H)[1,2-bis(diphenylphosphino)ethane]$_2$][BF_4]: An Experiment for an Advanced Inorganic Chemistry Laboratory Involving Synthesis and NMR Properties of an η^2-H_2 Complex. October, 988.

Blackman, Adrian J. Four Programs for Windows: Abstract of Volume 4D, Number 2: SPECPNMR: A Proton NMR Slide Show. (JCE: Software) November, 1078.

Burke, Jeffrey T. Economical Mixed Solvents for NMR Studies. June, 550.

Gallaher, Thomas N.; Gaul, David A.; Schreiner, Serge. The Esterification of Trifluoroacetic Acid: A Variable Temperature NMR Kinetics Study. May, 465.

Gerothanassis, I. P.; Kalodimos, C. G. NMR Shielding and the Periodic Table. August, 801.

Hönig, Helmut. Four Programs for Windows: Abstract of Volume 4D, Number 2: HIPPO-CNMRS: Highly Improved Prediction Program of Carbon Nuclear Magnetic Resonance Shifts. (JCE: Software) November, 1078.

Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. February, 184.

Lee, Moses. Determination of the Solution Conformation of 3'-Azido-3'-deoxythymidine-5'-monophosphate (AZTMP): An Advanced Chemistry and Biochemistry Project Using NMR and Molecular-Modeling Studies. (Corrections) April, 382.

Magner, John T.; Selke, Matthias; Russell, Arlene A.; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.

Mills, Nancy S. Complete Assignment of Proton Chemical Shifts in Terpenes: An Experiment Combining 2D NMR Spectroscopy with Molecular Modeling. December, 1190.

Morris, Kevin F.; Erickson, Luther E. NMR Determination of Internal Rotation Rates and Rotational Energy Barriers: A Physical Chemistry Lab Project. May, 471.

Nibler, Joseph W.; Minarik, Philip; Fitts, William; Kohnert, Rodger. Gas-Phase NMR Study of the DCl–HBr Isotope Exchange Reaction. January, 99.

Paniagua, Juan Carlos; Moyano, Albert. On the Way of Introducing Some Basic NMR Aspects: From the Classical and Naive Quantum Models to the Density-Operator Approach. April, 310.

Poiré, C.; Rabiller, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.

Quist, Per-Ola. Simple NMR Imaging. August, 751.

Schmedake, Thomas A.; Welch, Lawrence E. The Quantitative Analysis of an Analgesic Tablet: An NMR Experiment for the Instrumental Analysis Course. November, 1045.

Sen, Stephanie E.; Aniker, Keith S. ^{1}H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.

Nomenclature/Units/Symbols

Graham, Donald M. Significant Figures in Graph Interpretation. March, 211.

Kjonaas, Richard A. Amyl: A Misunderstood Word. December, 1127.

Lind, Gerhard. Inorganic Nomenclature. (LTE) August, 826.

Mullin, Jerome; Courtney, Pamela. Using Inexpensive "Find & Circle" Word Search Software in the Study of Chemical Nomenclature. (CBB) June, A130.

Painter, Terence J. A Mnemonic for the Inositols. October, 949.

Srikrishna, A. A Rapid Way of Computing the Number of Rings Present in a Polycyclic Organic Compound. May, 428.

ten Hoor, Marten J. Inorganic Nomenclature. (LTE) August, 825.

Non-major courses

Hansen, Lee D.; Garner, Judy L.; Wilson, Byron J.; Cluff, Coran L.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experiments. September, 840.

Helser, Terry L. A Polymer "Pollution Solution" Classroom. September, 843.

Kelter, Paul B.; Jacobitz, Kathleen; Kean, Elizabeth; Hoesing, Aurietha. A Chemistry Course for Elementary Education Majors: What is Possible When the Chemistry and Education Departments See Eye to Eye. (CK) October, 933.

Kostecka, Keith S.; Lerman, Zafra M.; Angelos, Sanford A. Use of Gas Chromatography-Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.

Lagowski, J. J. A Decade of Project 2061. (Editorial) April, 287.

Risley, John M. An Organoleptic Laboratory Experiment. December, 1181.

Roberts, J. L.; Selco, J. I.; Wacks, D. B. Mother Earth Chemistry: A Laboratory Course for Nonmajors. August, 779.

Trumbore, Conrad N.; Bevenour, Julie; Scantlebury, Kathryn. Chemistry and the Human Environment: A Course for Non-Science Majors. November, 1012.

Nuclear/Radiochemistry

Adams, David L. Metal Hydrides and the Dawn of the Atomic Age. March, 205.

Dietz, Mark L.; Horwitz, E. Philip. An Improved Method for the Separation of Lead-210 from Ra-DEF for Radioactive Equilbrium Experiments: Microscale Liquid-Liquid Extraction Using a Polymer-Supported Crown Ether. February, 182.

Hawcroft, David M. The Synthesis of Proteins—A Simple Experiment To Show the Procedures and Problems of Using Radioisotopes in Biochemical Studies. November, 1030.

Jensen, Torkil H. Fusion—A Potential Power Source or Not? (LTE) April, 382.

Lunelli, Bruno. Fusion—A Potential Power Source or Not? (LTE) April, 382.

Reed, B. Cameron. Estimating the Critical Mass of a Fissionable Isotope. February, 162.

Sparberg, Esther B. Hindsight and the History of Chemistry. March, 199.

Organic Chemistry

Adam, D. J.; Mainwaring, J.; Quigley, Michael N. Soxhlet Extraction of Caffeine from Beverage Plants. December, 1171.

Ali, Imran. A Compact Steam Distillation Apparatus. March, 285.

Amsterdamsky, Claude. Phase Transfer Catalysis Applied to Oxidation. January, 92.

Bendall, Victor I. COS: Organic Reaction Drills Based Upon Collective Organic Syntheses. (JCE: Software) April, 323.

Bieda, Kelly L.; Purrington, Suzanne T. The Neglected Element in Sophomore Organic Chemistry. August, 754.

Blackman, Adrian J. Four Programs for Windows: Abstract of Volume 4D, Number 2: SPECPNMR: A Proton NMR Slide Show. (JCE: Software) November, 1078.

Blackman, Adrian J. A Pedagogical Approach to Qualitative Organic Analysis: Simulating the Integration of Wet Tests Spectroscopy and Common Sense. (CS #185) May, 434.

Braga, Fernando G. Inexpensive Small-Scale Sonochemistry with Magnetic Agitation. (ML) May, A104.

Charonnat, Jeffrey A.; Steinberg, Cathleen S. Microscale Synthesis of 2,3:5,6-Di-*O*-isopropylidene-α-D-mannofuranose ("Diacetone Mannose"). (ML) August, A170.

Ciaccio, James A.; Volpi, Sabrina; Clarke, Ransford. Grignard Reaction of an Epoxide: A Mechanistic Study. December, 1196.

Clausen, Thomas P.; Johnson, Beverly; Wood, Jim. A Mixed Aldol Condensation-Michael Addition Experiment. March, 266.

Cohen, Paul S.; Cohen, Stephen M. Wöhler's Synthesis of Urea: How Do the Textbooks Report It? (TF) September, 883.

Crouch, R. David; Holden, Michael S.; Samet, Cindy. CAChe Molecular Modeling: A Visualization Tool Early in the Undergraduate Chemistry Curriculum. (NSF) October, 916.

Delaware, Dana L.; Fountain, K. R. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.

Dennison, Shelagh T.; Harrowven, David C. Cascade Sequences in Organic Synthesis: A Lesson from Nature? August, 697.

Desai, Ranjit; Eskola, Philip. A Modified Splash Guard. June, 568.

Dobrev, Alexandre A. "Course Thesis" as End of the Laboratory Experimental Program. September, 856.

Ems-Wilson, Janice. Following Microscale Organic Reactions Using FT–IR. (ML) August, A171.

Gallaher, Thomas N.; Gaul, David A.; Schreiner, Serge. The Esterification of Trifluoroacetic Acid: A Variable Temperature NMR Kinetics Study. May, 465.

Garin, David L.; Gamber, Melissa; Rowe, Bradley J. Epoxidation of Alpha-Methylstyrene and Its Lewis Acid Rearrangement to 2-Phenylpropanal. June, 555.

Greenberg, Fred H. Microscale Preparation of Difluorenylidene and *trans*-2,3-Dibenzoylspiro[cyclopropane-1-9'-fluorene]. (ML) November, 1043.

Gross, Jr., Ray A. An Analysis of Ozonolysis for Classroom Instruction. November, 1019.

Harvey, T. G. Acyclic Saturated Ketones. (LTE) December, A295.

Hermann, Christine K. F. First Day in Organic Lab. September, 852.

Hönig, Helmut. Four Programs for Windows: Abstract of Volume 4D, Number 2: HIPPO-CNMRS: Highly Improved Prediction Program of Carbon Nuclear Magnetic Resonance Shifts. (JCE: Software) November, 1078.

Katz, Marlene. Teaching Organic Chemistry via Student-Directed Learning: A Tech-

nique that Promotes Independence and Responsibility in the Student. May, 440.
Kiefer, Edgar F.; Takauye, Kenn M. Methylene-*bis*-amide (MBA) Derivatives for Characterization of Nitriles. February, 190.
Kjonaas, Richard A. Amyl: A Misunderstood Word. December, 1127.
Kolar, Patrik; Tišler, Miha. A Convenient Synthesis of the Tetrasubstituted Pyrrole: An Undergraduate Heterocyclic Laboratory Experiment. October, 986.
Langler, Richard Francis. A Conceptually Simple Approach to the Analysis of Aromaticity in Pericyclic Transition States. September, 899.
Leber, Phyllis A.; Szczerbicki, Sandra K. Theme-Based Bidisciplinary Chemistry Laboratory Modules. (NSF) December, 1130.
Lee, Albert W. M. Separatory Flask and Beaker. June, 557.
Lesko, Melanie J. Stereoisomer Bubbles. May, 429.
Levine, Samuel G. Dip Reagents for Visualization in TLC. (ML) January, A4.
Levine, Samuel G. TLC Developing Chamber for Screening Column Chromatography Fractions. January, 77.
Luckenbaugh, Raymond W. Undergraduate Organic Chemistry Laboratory Safety. November, 1083.
Magner, John T.; Selke, Matthias; Russell, Arlene A.; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.
Manfredi, K. P.; McGrew, L. A. Preparation and Properties of a Stable Organic Cation: A Microscale Experiment for Organic Chemistry. (ML) June, A124.
Maroto, Beatriz; Camusso, Celso. Assessment of Knowledge Acquired in an Organic Chemistry Course. March, 231.
McClelland, Bruce W. An Omitted Collaborator. (LTE) June, 598.
McClure, Cynthia K.; Chenault, H. Keith. Chemoenzymatic Synthesis of an Enantiomerically Pure Lactone: A Three-Step Synthesis for Undergraduate Organic Chemistry Laboratory. May, 467.
McGoran, Ernest C.; Melton, Cameron; Taitch, Darren. GC/MS of Unknown Esters for Teaching MS Fragmentation Patterns: A Combination Organic Experiment for Esterifying Unknown Alcohols and Determining Their Structures by GC/MS. January, 88.
Miles, William H.; Nutaitis, Charles F.; Anderton, Christian A. Iron(III) Chloride as a Lewis Acid in the Friedel–Crafts Acylation Reaction. March, 272.
Mills, Nancy S. Complete Assignment of Proton Chemical Shifts in Terpenes: An Experiment Combining 2D NMR Spectroscopy with Molecular Modeling. December, 1190.
Moeur, Harriet P.; Pinnell, Robert P. Use of the Disposable IR Card in the Organic Chemistry Laboratory. April, 371.
Mosher, Michael D.; Kelly, Chad O.; Mosher, Melvyn W. Examination of a Reaction Mechanism by Polarimetry: An Experiment for the Undergraduate Organic Chemistry Laboratory. June, 567.
Onami, Tetsuo; Kanazawa, Hitoshi. A Simple Method for Isolation of Caffeine from Black Tea Leaves: Use of a Dichloromethane-Alkaline Water Mixture as an Extractant. June, 556.
Organ, Michael G.; Anderson, Paul. Carbonyl and Conjugate Additions to Cyclohexenone: Experiments Illustrating Reagent Selectivity. December, 1193.
Ortega, Fernando; Veles, Ernesto; Somanathan, Ratnassamy. The Modern Student Laboratory: Chromatography Synthesis and Use of Reverse-Phase Silica Gel for HPLC in Undergraduate Chemistry. (MODLAB) February, A26.
Ortega, Pedro A.; Guzman, Miguel E.; Vera, Leonel. Useful Spreadsheet for Updating Multistep Organic Synthesis. (CS #188) August, 726.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.
Painter, Terence J. A Mnemonic for the Inositols . October, 949.
Robinson, Rolland K.; De Jesus, Karl. The Mechanism of $NaBH_4$ Addition to Aldehydes: A Labelling Experiment. March, 264.
Rosan, Alan M. Visualizing the S_N2 Inversion. (LTE) October, A228.
Rowland, Alex T. Acryclic Saturated Ketones. (LTE) December, A296.
Sattsangi, Prem D. Air Stream-Assisted Sublimation on a Microscale: A Rapid Procedure Suitable for Sophomore Laboratory. (ML) January, A3.
Sauers, Ronald R. Steric Attraction: The Far Side. February, 114.
Schatz, Paul F. Bromination of Acetanilide. March, 267.
Schatz, Paul F. Reports from Other Journals: Gleanings from Scientific American. October, A234.
Scimone, Anthony; Scimone, Angelina A. The Importance of Undergraduate General and Organic Chemistry to the Study of Biochemistry in Medical School. December, 1153.
Sen, Stephanie E.; Aniker, Keith S. ^1H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.
Smith, Michael B. Disconnect by the Numbers: Protocol for the Synthesis of Alkanes. April, 304.
Sotiriou-Leventis, Chariklia; Hanna, Samir B.; Leventis, Nicholas. Relative Stabilities and Reactivities of Isolated versus Conjugated Alkenes: Reconciliation via a Molecular Orbital Approach. April, 295.
Srikrishna, A. A Rapid Way of Computing the Number of Rings Present in a Polycyclic Organic Compound. May, 428.
Taber, Douglass F.; Meagley, Robert P.; Supplee, Danielle. A Colorful Grignard Reaction: Preparation of the Triarylmethane Dyes from 4-Bromo-*N,N*-Dimethylaniline. March, 259.
Taber, Douglass F.; Wang, Yanong; Liehr, Sebastian. Mini-scale Oxidation/Reduction in Organic Laboratory Course: 4-Nitrobenzaldehyde/4-Nitrobenzyl Alcohol. (ML) November, 1042.
Thall, Edwin. When Drug Molecules Look in the Mirror. June, 481.
Tidwell, Thomas T. The Electrophilic Addition to Alkynes Revisited. November, 1081.
Toong, Yock Chai. Bench Top Vortexing Countercurrent Extractor for Controlled pH Extraction of a Mixture. May, 476.
Tóth, Zoltán. A Demonstration of Wöhler's Experiment: Preparation of Urea from Ammonium Chloride and Potassium Cyanate. (TD) June, 539.
Waddell, Thomas G.; Rybolt, Thomas R. Sherlock Holmes and the Nebulous Nitro. December, 1157.
Warnhoff, E. W. The Curiously Intertwined Histories of Benzene and Cyclohexane. June, 494.
Weiss, Hilton M. Further Comments upon the Electrophilic Addition to Alkynes: A Response to Criticism from Professor Thomas T.Tidwell. November, 1082.
Wiberg, Kenneth B. The Role of Electrostatic Effects in Organic Chemistry. November, 1089.
Wojciechowski, Brenda J.; Deal, S. Todd. From Lecture Hall to the Laboratory: The Pinacol Rearrangement: Fostering Problem Solving Abilities and Critical Thinking Skills of the Organic Chemistry Student. January, 85.
Zarzycki, Pawel K.; Lamparczyk, Henryk. A Simple Experiment Demonstrating the Temperature Effect in Supramolecular Chemistry. (TD) May, 459.

Organic Synthesis

Almy, John; Herrera, Antonio; Martín, Nazario; Seoane, Carlos; Suzuki, Toshiyasu; Wudl, Fred. The Synthesis of 10-[Spiro(6,6)C_{60}]-Anthrone: A Microscale Reaction of Fullerene. (ML) May, A105.
Bendall, Victor I. COS: Organic Reaction Drills Based Upon Collective Organic Syntheses. (JCE: Software) April, 323.
Braga, Fernando G. Inexpensive Small-Scale Sonochemistry with Magnetic Agitation. (ML) May, A104.
Buchholz, Fredric L. Superabsorbent Polymers: An Idea Whose Time Has Come. (PROD) June, 512.
Charonnat, Jeffrey A.; Steinberg, Cathleen S. Microscale Synthesis of 2,3:5,6-Di-*O*-isopropylidene-α-D-mannofuranose ("Diacetone Mannose"). (ML) August, A170.
Ciaccio, James A.; Volpi, Sabrina; Clarke, Ransford. Grignard Reaction of an Epoxide: A Mechanistic Study. December, 1196.
Clausen, Thomas P.; Johnson, Beverly; Wood, Jim. A Mixed Aldol Condensation-Michael Addition Experiment. March, 266.
Dennison, Shelagh T.; Harrowven, David C. Cascade Sequences in Organic Synthesis: A Lesson from Nature? August, 697.
Elder, John W.; Holtz, Kathleen M. Microwave Microscale Organic Experiments. (ML) May, A104.
Garin, David L.; Gamber, Melissa; Rowe, Bradley J. Epoxidation of Alpha-Methylstyrene and Its Lewis Acid Rearrangement to 2-Phenylpropanal. June, 555.
Greenberg, Fred H. Microscale Preparation of Difluorenylidene and *trans*-2,3-Dibenzoylspiro[cyclopropane-1-9'-fluorene]. (ML) November, 1043.
Harvey, T. G. Acyclic Saturated Ketones. (LTE) December, A295.
Kiefer, Edgar F.; Takauye, Kenn M. Methylene-*bis*-amide (MBA) Derivatives for Characterization of Nitriles. February, 190.
Kolar, Patrik; Tišler, Miha. A Convenient Synthesis of the Tetrasubstituted Pyrrole: An Undergraduate Heterocyclic Laboratory Experiment. October, 986.
Magner, John T.; Selke, Matthias; Russell, Arlene A.; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.
Marsh, Diane F.; Mink, Larry M. Microscale Synthesis and Electronic Absorption Spectroscopy of Tetraphenylporphyrin H_2(TPP) and Metalloporphyrins Zn^{II}(TPP) and Ni^{II}(TPP). (ML) December, 1188.
McClure, Cynthia K.; Chenault, H. Keith. Chemoenzymatic Synthesis of an Enantiomerically Pure Lactone: A Three-Step Synthesis for Undergraduate Organic Chemistry Laboratory. May, 467.
Miles, William H.; Nutaitis, Charles F.; Anderton, Christian A. Iron(III) Chloride as a Lewis Acid in the Friedel–Crafts Acylation Reaction. March, 272.

Nuhrich, Alain; Varache-Lembège, Martine; Lacan, Fabrice; Devaux, Guy. Use of Infrared Spectroscopy in Monitoring a New Method for the Preparation of Sulotroban, an Antithrombotic Drug: A Medicinal Chemistry Experiment. December, 1185.
Organ, Michael G.; Anderson, Paul. Carbonyl and Conjugate Additions to Cyclohexenone: Experiments Illustrating Reagent Selectivity. December, 1193.
Ortega, Fernando; Velez, Ernesto; Somanathan, Ratnassamy. The Modern Student Laboratory: Chromatography Synthesis and Use of Reverse-Phase Silica Gel for HPLC in Undergraduate Chemistry. (MODLAB) February, A26.
Ortega, Pedro A.; Guzman, Miguel E.; Vera, Leonel. Useful Spreadsheet for Updating Multistep Organic Synthesis. (CS #188) August, 726.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.
Rowland, Alex T. Acryclic Saturated Ketones. (LTE) December, A296.
Schatz, Paul F. Bromination of Acetanilide. March, 267.
Schatz, Paul F. Reports from Other Journals: Gleanings from Scientific American. October, A234.
Sih, John C. A Consistent System for Coding Labratory Samples. July, 693.
Smith, Michael B. Disconnect by the Numbers: Protocol for the Synthesis of Alkanes. April, 304.
Snyder, Donald M. Olefin Metathesis Polymerization: The Unexpected Role of Carbenoid Species in Formation of Macromolecules. February, 155.
Solomon, Sally; Hur, Chinyu; Lee, Alan; Smith, Kurt. Synthesis of Ethyl Salicylate Using Household Chemicals. (F&R) February, 173.
Taber, Douglass F.; Meagley, Robert P.; Supplee, Danielle. A Colorful Grignard Reaction: Preparation of the Triarylmethane Dyes from 4-Bromo-*N*,*N*-Dimethylaniline. March, 259.
Toorkey, R. F.; Rajanna, K. C.; Prakash, P. K. Sai. Curing of Unsaturated Polyester: Network Formation. April, 372.
Wojciechowski, Brenda J.; Deal, S. Todd. From Lecture Hall to the Laboratory: The Pinacol Rearrangement: Fostering Problem Solving Abilities and Critical Thinking Skills of the Organic Chemistry Student. January, 85.

Organometallics

Marsh, Diane F.; Mink, Larry M. Microscale Synthesis and Electronic Absorption Spectroscopy of Tetraphenylporphyrin H_2(TPP) and Metalloporphyrins Zn^{II}(TPP) and Ni^{II}(TPP). (ML) December, 1188.
Mocellin, E.; Ravera, M.; Russell, R. A.; Hynson, T. Over 100 Years of Research on Cyclopentadienylironcarbonyl Chemistry: Microscale-Integrated Organometallic Experiments. (ML) May, A99.
Snyder, Donald M. Olefin Metathesis Polymerization: The Unexpected Role of Carbenoid Species in Formation of Macromolecules. February, 155.

Outreach

Barry, Dana M. Schools Benefit from Clarkson's CAMP. March, 209.
Craney, Chris; Mazzeo, April; Lord, Kaye. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.
Kenkel, John. Committee on Chemistry in the Two-Year Colleges. October, A239.
Kenkel, John. Chemistry Education at the 2-Year Colleges—What's New? Part 2. November, A272.
Maier, Mary L. Polymer Science Pilot Program. July, 643.
Waldman, Amy Sue; Schechinger, Linda; Nowick, James S. A Coordinated Chemistry Outreach Program for Thousands of High School Students. August, 762.

Paper Preservation

Carter, Henry A. The Chemistry of Paper Preservation: Part 1. The Aging of Paper and Conservation Techniques. May, 417.
Carter, Henry A. The Chemistry of Paper Preservation: Part 2. The Yellowing of Paper and Conservation Bleaching. November, 1068.
Carter, Henry A. The Chemistry of Paper Preservation Part 3. The Strengthening of Paper. December, 1160.

Pauling, Linus

Davenport, Derek A. In This Issue: A Tribute to Linus Carl Pauling (1901–1994). January, 2.
Davenport, Derek A. Letters to F. J. Allen: An Informal Portrait of Linus Pauling. (SYM) January, 21.
Davenport, Derek A. The Many Lives of Linus Pauling: A Review of Reviews. September, A210.
Grayson, Martin. Cafe Monologue: A Tribute to Linus Carl Pauling (1901–1994). (SYM) January, 3.
Jensen, William B. Electronegativity from Avogadro to Pauling: Part 1: Origins of the Electronegativity Concept. (SYM) January, 11.
Kauffman, Laurie M.; Kauffman, George B. An Interview with Linus Pauling. (SYM) January, 29.
Paradowski, Robert J. Some Personal Reflections of a Pauling Biographer on the Art and Science of Scientific Biography: The Biographical Quest. (SYM) January, 4.
Sharma, Brahama D. Molecular Orbital (Hückel) Theory and Linus Pauling: A Historical Perspective. August, 746.

Peptides

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.
Mosher, Michael D.; Verner, Erik J.; Oliver, Bradford J.; Hamlin, Daniel; Vietri, Nicholas; Palmer, Robert B.; Arnold, Tyrone V.; Natale, Nicholas R. Synthesis of *N*-Methyl-2-trichloroacetylpyrrole—A Key Building Block in Peptides That Bind DNA: Micro-, Semimicro-, and Macro-Scale Organic Lab Experiments. November, 1036.
Rogers, Paul W. A Simplified Procedure for Dipeptide Sequence Analysis in the Undergraduate Laboratory. February, 189.

Pericyclic Reactions

Langler, Richard Francis. A Conceptually Simple Approach to the Analysis of Aromaticity in Pericyclic Transition States. September, 899.

Periodicity/Periodic Table

Duncan, Robert L. Electronic Configuration Pattern Found in Pascal's Triangle. August, 742.
Gerothanassis, I. P.; Kalodimos, C. G. NMR Shielding and the Periodic Table. August, 801.
Gorin, George. Mendeleev and Moseley: The Principal Discoverers of the Periodic Law. June, 490.
Jensen, William B. Electronegativity from Avogadro to Pauling: Part 1: Origins of the Electronegativity Concept. (SYM) January, 11.

Phase Transitions/Diagrams

Lieu, Van T. A Simple Experiment for Demonstration of Phase Diagram of Carbon Dioxide. (TD) September, 837.
Lötz, A. Multichannel DTA Apparatus for the Measurement of Phase Diagrams. February, 195.
Lunelli, B. Phase Diagrams. (LTE) October, A228.
Phelps, Cindy L.; Smart, Neil G.; Wai, C. M. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.
Sattsangi, Prem D. Air Stream-Assisted Sublimation on a Microscale: A Rapid Procedure Suitable for Sophomore Laboratory. (ML) January, A3.
Schreckenbach, Joachim P.; Rabending, Klaus. Demonstration of the Plasma State. (TD) August, 782.

Phosphorus

Wright, Stephen W. An Improved Container for Solutions of Yellow Phosphorus. August, 818.

Photochemistry

Magner, John T.; Selke, Matthias; Russell, Arlene A.; Chapman, Orville L. A Simple 2+2 Photocycloaddition That Poses an Interesting NMR Problem: A New Photochemistry Experiment. September, 854.
McNeese, Timothy J.; Ezbiansky, Karin A. Photochemical Preparation and Reactivity of *cis*-$Cr(CO)_4(CH_3CN)_2$: An Advanced Undergraduate Inorganic Laboratory Experiment. June, 548.

Physical Chemistry

Alvarez J., Galvez; Roca R. M., Soler. A Simple Algorithm for the Distinction of Reaction Mechanisms Based on the Measurement of Additive Properties. March, 214.
Bachofer, Steven J. Conductivity, a Simple Method To Probe Micellar Solutions. September, 861.
Bader, Morris. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
Baonza, Valentín García; Cáceres, Mercedes; Núñez, Javier. Mechanical Coefficients of Liquids by a Differential Expansion Method: A Physical Chemistry Experiment. July, 690.
Benini, Omar; Cervellati, Rinaldo; Fetto, Pasquale. The BZ Reaction: Experimental and Model Studies in the Physical Chemistry Laboratory. September, 865.
Bigger, Stephen W.; Craig, Robert A. Monte Carlo Approach to Generating the Probability-Distribution Function of a Classical Harmonic Oscillator. (CS #188) August, 724.
Buccigross, Jeanne M.; Metz, Christa; Elliot, Lori; Becker, Pamela; Earley, Angela S.; Hayes, Jerry W.; Novak, Michael; Underwood, Gayl A. Synthesis and Kinetics of Hydrolysis of 3,5-Dimethyl-*N*-acetyl-*p*-benzoquinone Imine: An Undergraduate Laboratory. April, 364.
Burness, James H. A Convenient, Inexpensive, and Environmentally Friendly Method of Measuring the Vapor Pressure of a Liquid as a Function of Temperature. October, 967.
Campbell, Mark L. A Systematic Method for Determining Molecular Term Symbols for Diatomic Molecules Using Uncoupled-States Orbital Diagrams. August, 749.

Carpenter, D. K. A Controversy about the Gibbs Function: Introduction to the Paper Symposium. (SYM) May, 384.
Chowdhury, Mihir. Selection Rules for Processes Involving Photon–Molecule Interaction: A Symmetry-Conservation-Based Approach Bypassing Transition Matrix Elements. August, 743.
Craig, Norman C. Entropy Diagrams. August, 710.
Crumpton, D. M.; Laitinen, R. A.; Smieja, J.; Cleary, D. A. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.
Dai, Sheng. Correct Regression Formula Used in Determination of Vaporization Enthalpy of Pure Liquids by UV-Visible Spectroscopy. February, 122.
David, Carl W. IR Vibration–Rotation Spectra of the Ammonia Molecule. January, 46.
Deese, William; Washburn, Anna Marie. Relative Rates of Effusion through Punctured Balloons. (TD) June, 540.
DeGraff, Benjamin A.; Horner, David A. Luminescence Decay and Flash Photolysis Experiments Using an Inexpensive, Laser-Based Apparatus. March, 279.
DeKock , Roger L. Tendency of Reaction, Electrochemistry, and Units. October, 955.
DeLorenzo, Ronald. Root Mean Square. (LTE) December, A295.
Demirbas, Erhan; Devonshire, Robin. A Computer Experiment in Physical Chemistry: Linear Dichroism in Nematic Liquid Crystals. June, 586.
Eliel, Ernest L.; Engelsman, Jan J. The Heats of Combustion of Gaseous Cyclotetradecane and *trans*-Stilbene—A Tale of Long-standing Confusion. September, 903.
Erickson, Luther E.; Morris, Kevin. A Physical Chemistry Lab Project: The Effect of Composition on Several Physical Properties of Binary Mixtures of Common Liquids. October, 971.
Frohlich, H. On the Entropy Change of Surroundings of Finite and of Infinite Size: From Clausius to Gibbs. August, 716.
Ganapathisubramanian, N. Generation of HCl, DCl, HBr, and DBr. (LTE) November, A260.
Ginebreda, A. Entropy and Waste Recovery: Between Thermodynamics and Economy. August, 708.
Guzmán, Miguel; Ortega, Pedro; Vera, Leonel. A Computer Calculation Method in Chemical Kinetics. (CS #190) October, 921.
Haglund, Bert O.; Wurster, Dale Eric; Sundelöf, Lars-Olof; Upadrashta, Sathyanarayana M. Effect of SDS Micelles on Rhodamine-B Diffusion in Hydrogels. September, 889.
Hair, Sally R. An Introductory Dye Laser Experiment. (MODLAB) January, A7.
Hansen, John C. Schrödinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation. (JCE: Software) June, 523.
Hansen, John C. Schröedinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation. (JCE: Software) October, 924.
Hindmarsh, Kathryn; House, Donald A. An Easily Demonstrated Zero-Order Reaction in Solution. June, 585.
Hornack, Frederick M. Thermodynamics of Air: Reinterpreting the Method of Clement and Desormes. October, 965.
Kahley, Mary Jo; Novak, Michael. A Practical Procedure for Determining Rate Constants in Consecutive First-Order Systems. April, 359.
Khundkar, Lutfur R. Mass Ratio of the Deuteron and Proton from the Balmer Spectrum of Hydrogen: Variation on an Undergraduate Physical Chemistry Experiment. November, 1055.
Lawrence, Barbara A.; Zanella, Andrew W. A Simple Method for Producing A Mixture of Gaseous HCl and DCl for Measuring Their Vibrational-Rotational Spectra. April, 367.
Lee, Albert W.M.; Leung, K.M.; Kwong, Daniel W.J.; Chan, C.L. Symmetry Elements and Operations. (JCE: Software) October, 924.
Leenson, I. A. Additional Kinetic Information. (LTE) August, 826.
Lehman, Jeffrey J.; Goldstein, Elisheva. The Potential Energy Surface of ClF_3. November, 1096.
Lieu, Van T. A Simple Experiment for Demonstration of Phase Diagram of Carbon Dioxide. (TD) September, 837.
Lisensky, George C.; Patel, Manish N.; Reich, Megan L. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.
Lötz, A. Multichannel DTA Apparatus for the Measurement of Phase Diagrams. February, 195.
Mazzacco, Charles J. The Effect of Solvent and Micelles on the Rate of Excited-State Deprotonation. (TD) March, 254.
McGinn, Clifford J. Stretch and Bend Modes. (LTE) March, 286.
McNaught, Ian J.; Moore, Rory. Winspec: A Microwave Spectroscopy Tutor. (JCE: Software) June, 523.
Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. (Corrections) November, A262.
Millet, Pierre. Electric Potential Distribution in an Electrochemical Cell. October, 956.
Mina-Camilde, Nairmen; Manzanares I., Carlos; Caballero, Julio F. Molecular Constants of Carbon Monoxide at $v = 0$, 1, 2, and 3: A Vibrational Spectroscopy Experiment in Physical Chemistry. August, 804.
Morris, Kevin F.; Erickson, Luther E. NMR Determination of Internal Rotation Rates and Rotational Energy Barriers: A Physical Chemistry Lab Project. May, 471.
Muenter, John S. The Helium–Neon Laser-Induced Fluorescence Spectrum of Molecular Iodine: An Undergraduate Laboratory Experiment. June, 576.
Muenter, John S.; Deutsch, John L. The Nitrogen-Laser Excited Luminescence of Pyrene: A Student Laboratory Study of Excimer Dynamics. June, 580.
Nibler, Joseph W.; Minarik, Philip; Fitts, William; Kohnert, Rodger. Gas-Phase NMR Study of the DCl–HBr Isotope Exchange Reaction. January, 99.
Noyes, Richard M. A Controversy about the Gibbs Function: Applications of the Gibbs Function to Chemical Systems and Subsystems. (SYM) May, 404.
O'Brien, L. C.; Kubicek, R. L. Binding-Energy Curve for Iodine Using Laser Spectroscopy. January, 86.
Ogren, Paul J.; Jones, Thomas P. Laboratory Interfacing Using the LabVIEW Software Package. (CBB) December, 1115.
Pattacini, Silvio C. Use of a 10-cm Pathlength Quartz Cell for the Separation of the Isotopes of HCl Vapor. August, 822.
Pojman, John A.; West, William W. A Unified Physical Chemistry Laboratory Based on Oscillating Reactions and Traveling Fronts. (NSF) January, 35.
Probst, Donald A.; Henderson, Giles. Zinc Electrodes and the Thermodynamics of a Galvanic Cell. October, 962.
Ramachandran, B. R.; Halpern, Arthur M. Chemical Kinetics in Real Time: Using the Differential Rate Law and Discovering the Reaction Orders. July, 686.
Reid, Brian P. Determining Intermolecular Potentials from Second Virial Coefficients. (CS #187) July, 612.
Russell, Douglas K. The Boltzmann Distribution. (TF) April, 299.
Schomaker, Verner; Waser, Jurg. A Controversy about the Gibbs Function: Global Thermodynamics of Systems That Include Stressed Solids. (SYM) May, 386.
Seckin, Turgay; Kormali, Suphi M. An-Easy-to-Build Rotational Viscometer with Digital Readout. February, 193.
Secrest, Don. Osmotic Pressure and the Effects of Gravity on Solutions. October, 998.
Shaw, Roosevelt; Hokmabadi, Mohammad. Raman Spectroscopic Determination of Heats of Vaporization of Pure Liquids. May, 474.
Snow, Nicholas H. Determination of Free-Energy Relationships Using Gas Chromatography. June, 592.
Strizhak, Peter; Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. September, 868.
Sutter, Dieter H. Free Enthalpy, Lagrange Multipliers, and Thermal Expansion: A Possibly Novel Way To Derive the Law of Mass Action. August, 718.
Swisher, Ron; Richmond, G. L.; Sercel, Peter C. Porous Silicon and the Search for a Silicon-Based LED. August, 738.
Treptow, Richard S. Free Energy versus Extent of Reaction: Understanding the Difference between ΔG and $\partial G/\partial \xi$. January, 51.
Tudela, David. Infrared Spectroscopy and Bond Strengths. (LTE) December, A297.
Tykodi, R. J. A Controversy about the Gibbs Function: The Gibbs Function; Spontaneity and Walls. (SYM) May, 398.
Vázquez-Vidal, Luis. MOLSYM: A Program on Molecular Symmetry and Group Theory. (CS #184) April, 321.
Vemulapalli, G. K.; Kukolich, S. G. Why Does a Stream of Water Deflect in an Electric Field? September, 887.
Vincent, Alan. An Alternative Derivation of the Energy Levels of the "Particle on a Ring" System. October, 1001.
Williams, Darren L.; Minarik, Phillip R.; Nibler, Joseph W. PC Calculations Using Gaussian for Windows. (CS #187) July, 608.
Wood, Scott E.; Battino, Rubin. The Gibbs Function Controversy. (SYM) May, 408.

Plant Chemistry

Barceló, A. Ros; Zapata, J. M. Measurement of Quantum Yield, Quantum Requirement, and Energetic Efficiency of the O_2-Evolving System of Photosynthesis by a Simple Dye Reaction. November, 1034.
Leber, Phyllis A.; Szczerbicki, Sandra K. Theme-Based Bidisciplinary Chemistry Laboratory Modules. (NSF) December, 1130.

Polymer Chemistry

Anderson, Guy E. A Simpler Small Scale Method for the Identification of Plastics. (ML) August, A173.
Buchholz, Fredric L. Superabsorbent Polymers: An Idea Whose Time Has Come. (PROD) June, 512.
Gilmer, T. Carter; Williams, Matthew. Polymer Mechanical Properties via a New Laboratory Tensile Tester. November, 1062.
Helser, Terry L. A Polymer "Pollution Solution" Classroom. September, 843.
Hop, Cornelius E. C. A.; Bakhtiar, Ray. Electrospray Ionization Mass Spectrometry: Part III: Applications in Inorganic Chemistry and Synthetic Polymer Chemistry. (TCI) August, A162.
Maier, Mary L. Polymer Science Pilot Program. July, 643.

Pinto, Gabriel. Testing the Electrical Resistivity of Wax and Copper Composites. July, 683.
Snyder, Donald M. Olefin Metathesis Polymerization: The Unexpected Role of Carbenoid Species in Formation of Macromolecules. February, 155.
Toorkey, R. F.; Rajanna, K. C.; Prakash, P. K. Sai. Curing of Unsaturated Polyester: Network Formation. April, 372.

Proteins

Bakhtiar, Ray; Hofstadler, Steven A.; Smith, Richard D. Electrospray Ionization Mass Spectrometry: Part II: Applications in Characterization of Peptides and Proteins. (TCI) June, A118.
Buccigross, Jeanne M.; Bedell, Cynthia M.; Suding-Moster, Heather L. Fluorescent Measurement of TNS Binding to Calmodulin: A Biochemistry Laboratory Experiment. March, 275.
Buccigross, Jeanne M.; Hayes II, Jerry W.; Metz, Christa S. Isolation and Purification of Calmodulin from Bovine Brain: A Biochemistry Experiment. March, 273.
Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.
Harris, Mary. A Simulated Growth Hormone Analysis. (F&R) August, 735.
Hawcroft, David M. The Synthesis of Proteins—A Simple Experiment To Show the Procedures and Problems of Using Radioisotopes in Biochemical Studies. November, 1030.
Steinhart, Carol. Chemistry behind the News: Sick Cows, Protein Geometry, and Politics. October, A232.
Wolfson, Adele J.; Hall, Mona L.; Branham, Thomas R. An Integrated Biochemistry Laboratory, Including Molecular Modeling. November, 1026.

Public Understanding/Appreciation

Adams, David L. Metal Hydrides and the Dawn of the Atomic Age. March, 205.
Barry, Dana M. Schools Benefit from Clarkson's CAMP. March, 209.
Bell, Jerry A. American Association for the Advancement of Science. What is AAAS? Why Should *Journal* Readers Be Interested? September, A196.
Buchholz, Fredric L. Superabsorbent Polymers: An Idea Whose Time Has Come. (PROD) June, 512.
Carter, Henry A. The Chemistry of Paper Preservation: Part 1. The Aging of Paper and Conservation Techniques. May, 417.
Carter, Henry A. The Chemistry of Paper Preservation: Part 2. The Yellowing of Paper and Conservation Bleaching. November, 1068.
Carter, Henry A. The Chemistry of Paper Preservation: Part 3. The Strengthening of Paper. December, 1160.
Chen, Wen; Orna, O.S.U., Mary Virginia. Recent Advances in Archaeological Chemistry: A Summary of Three Major Papers Presented as an Introduction to the Archaeological Chemistry Symposium, Anaheim, California. June, 485.
Craney, Chris; Mazzeo, April; Lord, Kaye. A High School–Collegiate Outreach Program in Chemistry and Biology Delivering Modern Technology in a Mobile Van. July, 646.
Crosby, G. A. Implications of the National Science Education Standards for Higher Education. September, A200.
Davenport, Derek A. In This Issue: A Tribute to Linus Carl Pauling (1901–1994). January, 2.
Davenport, Derek A. Letters to F. J. Allen: An Informal Portrait of Linus Pauling. (SYM) January, 21.
Davenport, Derek A. The Many Lives of Linus Pauling: A Review of Reviews. September, A210.
Deltete, Robert J.; Thorsell, David L. Josiah Willard Gibbs and Wilhelm Ostwald: A Contrast in Scientific Style. April, 289.
Donnelly, Thomas H. The Origins of the Use of Antioxidants in Foods. (PROD) February, 158.
DuPre, Donald B. Blood or Taco Sauce? The Chemistry behind Criminalists' Testimony in the O. J. Simpson Murder Case. January, 60.
Everett, Kenneth G.; DeLoach, Will S.; Bressan, Stephanie E. Women in the Ranks: Faculty Trends in the ACS-Approved Departments. February, 139.
Gorin, George. Mendeleev and Moseley: The Principal Discoverers of the Periodic Law. June, 490.
Hoffmann, Roald. Teach To Search: ACS 1996 Pimentel Award. September, A202.
Jensen, William B. Electronegativity from Avogadro to Pauling: Part 1: Origins of the Electronegativity Concept. (SYM) January, 11.
Kauffman, George B.; Mayo, Isaac. Multidisciplinary Scientist—Melvin Calvin: His Life and Work. May, 412.
Kauffman, Laurie M.; Kauffman, George B. An Interview with Linus Pauling. (SYM) January, 29.
Kenkel, John. Committee on Chemistry in the Two-Year Colleges . October, A239.
Kostecka, Keith S.; Lerman, Zafra M.; Angelos, Sanford A. Use of Gas Chromatography-Mass Spectroscopy (GC–MS) in Nonscience Major Course Laboratory Experiments. June, 565.
Kovac, Jeffrey. Scientific Ethics in Chemical Education. October, 926.
Lagowski, J. J. A Decade of Project 2061. (Editorial) April, 287.
Madlung, Andreas. The Chemistry behind the Air Bag: High Tech in First-Year Chemistry. (PROD) April, 347.
Nolan, William T.; Gish, Thaddeus J. The Joys of Liquid Nitrogen. (CK) July, 651.
Paradowski, Robert J. Some Personal Reflections of a Pauling Biographer on the Art and Science of Scientific Biography: The Biographical Quest. (SYM) January, 4.
Phelps, Cindy L.; Smart, Neil G.; Wai, C. M. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.
Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women's Fields of Chemistry: 1900–1920. February, 136.
Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women In Chemistry: Participation during the Early 20th Century. March, 203.
Rees, Thomas. Homeowner's Test for Lead in the Paint. July, 670.
Sparberg, Esther B. Hindsight and the History of Chemistry. March, 199.
Steinhart, Carol. Chemistry behind the News: Sick Cows, Protein Geometry, and Politics. October, A232.
Steinhart, Carol. Conjugated Linoleic Acid—The Good News about Animal Fat. December, A302.
Waldman, Amy Sue; Schechinger, Linda; Nowick, James S. A Coordinated Chemistry Outreach Program for Thousands of High School Students. August, 762.
Wamser, Christian; Wamser, Carl C. Lejaren A. Hiller, Jr.: A Memorial Tribute to a Chemist–Composer. July, 601.
Warnhoff, E. W. The Curiously Intertwined Histories of Benzene and Cyclohexane. June, 494.
Zare, Richard N. National Science Board. Where's the Chemistry in Science Museums. September, A198.

Quantitative Analysis

Andraos, John. On the Propagation of Statistical Errors for a Function of Several Variables. February, 150.
Bello, M. A.; González, A. Gustavo. Determination of Phosphate in Cola Beverages Using Nonsuppressed Ion Chromatography: An Experiment Introducing Ion Chromatography for Quantitative Analysis. December, 1174.
Bonicamp, Judith M. Procedure Modification for the Use of Corn Starch Packing Puffs for Titration Endpoints. March, 258.
Brazdil, Linda C. Oxygenates in Gasoline: A Versatile Experiment Using Gas Chromatography. November, 1056.
Crosno, S. K.; Kalbus, L. H.; Kalbus, G. E. Determinations of Carbon Dioxide by Titration: New Experiments for General, Physical, and Quantitative Analysis Courses. February, 175.
García-Armada, Pilar; Losada, José; de Vicente-Pérez, Santiago. Cation Analysis Scheme by Differential Pulse Polarography. June, 544.
Grossman, William E. L. QUNLAB: A Program for the Quantitative Analysis Laboratory. (CS #187) July, 611.
Kegley, Susan E.; Hansen, Kristen J.; Cunningham, Kevin L. Determination of Polychlorinated Biphenyls (PCBs) in River and Bay Sediments: An Undergraduate Laboratory Experiment in Environmental Chemistry Using Capillary Gas Chromatography with Electron Capture Detection. June, 558.
Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Determination of Phosphorus in Cola Drinks. December, 1173.
Mabrouk, Patricia Ann. The Modern Student Laboratory: Purification of Horse Heart Cyt c by Ion Exchange. (MODLAB) July, A149.
Peterson, Jim. Fluorometric Determination of Aluminum: A Quantitative Experiment for the Instrumental Analysis Laboratory. March, 262.
Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.
Quigley, Michael N.; Vernon, Frederick. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.
Quigley, Michael N.; Vernon, Frederick. A Matrix Modification Experiment for Use in Electrothermal Atomic Absorption Spectrophotometry. October, 980.
Schmedake, Thomas A.; Welch, Lawrence E. The Quantitative Analysis of an Analgesic Tablet: An NMR Experiment for the Instrumental Analysis Course. November, 1045.
Zimmerman, John; Jacobsen, Jerrold J. Quantitative Techniques in Volumetric Analysis. (JCE: Software) December, 1117.

Quantum Chemistry

Bakalbassis, E. G.; Stiakaki, M.-A. D.; Tsipis, A. C.; Tsipis, C. A. Spectroscopic Constants and Energetics of Metal-Containing Systems: An Experiment for the Undergraduate Computational-Chemistry Laboratory. February, 111.
Bigger, Stephen W.; Craig, Robert A. Monte Carlo Approach to Generating the Probability-Distribution Function of a Classical

Harmonic Oscillator. (CS #188) August, 724.
Campbell, Mark L. A Systematic Method for Determining Molecular Term Symbols for Diatomic Molecules Using Uncoupled-States Orbital Diagrams. August, 749.
Chowdhury, Mihir. Selection Rules for Processes Involving Photon–Molecule Interaction: A Symmetry-Conservation-Based Approach Bypassing Transition Matrix Elements. August, 743.
David, Carl W. IR Vibration–Rotation Spectra of the Ammonia Molecule. January, 46.
Hansen, John C. Schrödinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation. (JCE: Software) June, 523.
Hansen, John C. Schroedinger.m: A Mathematica Package for Solving the Time-Independent Schrödinger Equation. (JCE: Software) October, 924.
Lehman, Jeffrey J.; Goldstein, Elisheva. The Potential Energy Surface of ClF_3. November, 1096.
Ma, Ngai Ling. Quantum Analogies on Campus. (AA) November, 1016.
McNaught, Ian J.; Moore, Rory. Winspec: A Microwave Spectroscopy Tutor. (JCE: Software) June, 523.
O'Brien, L. C.; Kubicek, R. L. Binding-Energy Curve for Iodine Using Laser Spectroscopy. January, 86.
Paniagua, Juan Carlos; Moyano, Albert. On the Way of Introducing Some Basic NMR Aspects: From the Classical and Naive Quantum Models to the Density-Operator Approach. April, 310.
Vincent, Alan. An Alternative Derivation of the Energy Levels of the "Particle on a Ring" System. October, 1001.
Vitz, Ed; Binning, Robert. Inexpensive Exemplars for the Wave Model of Electronic Structure and Light. (TD) February, 171.
Williams, Darren L.; Minarik, Phillip R.; Nibler, Joseph W. PC Calculations Using Gaussian for Windows. (CS #187) July, 608.

Reactive Intermediates

Manfredi, K. P.; McGrew, L. A. Preparation and Properties of a Stable Organic Cation: A Microscale Experiment for Organic Chemistry. (ML) June, A124.

Redox Reactions

Amsterdamsky, Claude. Phase Transfer Catalysis Applied to Oxidation. January, 92.
Berger, Tomás G.; Mellon, Edward K. A Multistep Equilibria-Redox-Complexation Demonstration To Illustrate Le Châtelier's Principle. (TD) August, 783.
Hart, David M. Redox Challenges. (LTE) October, A226.
Ludwig, Oliver G. On Balancing "Redox Challenges". June, 507.
Schäffer, Susan Cline; Schäffer, Claus E. Fundamental Issues of Thermodynamics Illuminated by Conspicuous Inorganic Chemistry: Oxidation of $[Co(H_2O)_6]^{2+}$ to $[Co(H_2O)_6]^{3+}$ by Hydrogen Peroxide: A Nonspontaneous Redox Reaction Made Feasible by Thermodynamic Coupling. February, 180.
Stout, Roland. Redox Challenges. (LTE) October, A227.
Taber, Douglass F.; Wang, Yanong; Liehr, Sebastian. Mini-scale Oxidation/Reduction in Organic Laboratory Course: 4-Nitrobenzaldehyde/4-Nitrobenzyl Alcohol. (ML) November, 1042.
Zaugg, Noel S. Redox Challenges. (LTE) October, A226.

Safety/Hazardous Materials

Helliwell, S.; Harden, T. J. Bacterial Toxicity Assessment Using Resazurin Reduction Kinetics: An Undergraduate Toxicity Experiment for the Chemistry-Biology Major. April, 368.
Hunsley, James R. Chemical Inventory and MSDS Systems. (LTE) September, A188.
Kaufman, James A. Chemical Inventory and MSDS Systems. (LTE) September, A188.
Luckenbaugh, Raymond W. Undergraduate Organic Chemistry Laboratory Safety. November, 1083.
Nash, John J.; Meyer, Jeanne A. R; Nurrenbern, Susan C. Waste Treatment in the Undergraduate Laboratory: Let the Students Do It! December, 1183.
Olander, Claire R. An n-Bottle Lab Exercise with No Hazardous Waste. September, 849.
Tirri, Lawrence; Manning, Bradford; Johnson, Brian J. Development and Evaluation of a Program of Study in Hazardous Materials Management. April, 351.
Wright, Stephen W. An Improved Container for Solutions of Yellow Phosphorus. August, 818.

Separation Methods

Adam, D. J.; Mainwaring, J.; Quigley, Michael N. Soxhlet Extraction of Caffeine from Beverage Plants. December, 1171.
Ali, Imran. A Compact Steam Distillation Apparatus. March, 285.
Buccigross, Jeanne M.; Hayes II, Jerry W.; Metz, Christa S. Isolation and Purification of Calmodulin from Bovine Brain: A Biochemistry Experiment. March, 273.
Chakravarthy, Manu; Snyder, Laura; Vanyo, Timothy; Holbrook, Jill; Jakubowski, Henry V. Protein Structure and Chromatographic Behavior: The Separation and Characterization of Four Proteins Using Gel Filtration and Ion-Exchange Chromatography and Gel Electrophoresis. March, 268.
Conte, Eric D.; Barry, Eugene F.; Rubinstein, Harry. Determination of Caffeine in Beverages by Capillary Zone Electrophoresis: An Experiment for the Undergraduate Analytical Laboratory. December, 1169.
Dietz, Mark L.; Horwitz, E. Philip. An Improved Method for the Separation of Lead-210 from Ra-DEF for Radioactive Equilbrium Experiments: Microscale Liquid-Liquid Extraction Using a Polymer-Supported Crown Ether. February, 182.
Hampp, Andreas. The Extraction of Caffeine from Tea: A Modification of the Procedure of Murray and Hansen. December, 1172.
Hazra, N. K.; Mal, D. Micropath Distillation Apparatus. (ML) May, A103.
Lee, Albert W. M. Separatory Flask and Beaker. June, 557.
Lozano-Calero, Diego; Martín-Palomeque, Pilar; Madueño-Lorguillo, Silvia. Chromatographic Separation of Phosphoric Acid from Cola Beverages. December, 1172.
Onami, Tetsuo; Kanazawa, Hitoshi. A Simple Method for Isolation of Caffeine from Black Tea Leaves: Use of a Dichloromethane-Alkaline Water Mixture as an Extractant. June, 556.
Parcher, Jon F.; Yun, Kwang S. Gas Chromatographic Measurement of Void Volume and Mobile Phase Volume: Illustration of the Concepts of Excess and Total Adsorption. September, 894.
Petersen, Quentin R. The Use of a "Qual" Centrifuge for Greatly Simplifying and Speeding the Study of Milk. September, 848.
Phelps, Cindy L.; Smart, Neil G.; Wai, C. M. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.
Sattaangi, Prem D. Air Stream-Assisted Sublimation on a Microscale: A Rapid Procedure Suitable for Sophomore Laboratory. (ML) January, A3.
Sullins, D. W.; Denton, T. T.; Eisenbraun, E. J. Soxhlet Apparatus and Chromatography Columns Combined. April, 380.
Toong, Yock Chai. Bench Top Vortexing Countercurrent Extractor for Controlled pH Extraction of a Mixture. May, 476.

Silicon

Swisher, Ron; Richmond, G. L.; Sercel, Peter C. Porous Silicon and the Search for a Silicon-Based LED. August, 738.

Sodium

Branca, Mario; Loiselle, Steven. A Manageable Measurement Method for Sodium. September, 857.

Sodium Chloride

Stick, Robert V.; Mocerino, Mauro. Sodium Chloride Revisited. (TD) June, 539.

Solid-State Chemistry

Lei, Lixu; Yao, Xuebin; Xin, Xinquan. Classroom Demonstration of Solid State Reaction at Room Temperature. (TD) November, 1018.
Lisensky, George C.; Ellis, Arthur B. Journal of Chemical Education: Software: Abstract for Special Issue Number 12: The Solid State Resources CD. (JCE: Software) July, 667.
Lisensky, George C.; Patel, Manish N.; Reich, Megan L. Experiments with Glow-in-the-Dark Toys: Kinetics of Doped ZnS Phosphorescence. November, 1048.
Swisher, Ron; Richmond, G. L.; Sercel, Peter C. Porous Silicon and the Search for a Silicon-Based LED. August, 738.
Winder, Edmund J.; Ellis, Arthur B.; Lisensky, George C. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.

Solutions/Solvents

Burke, Jeffrey T. Economical Mixed Solvents for NMR Studies. June, 550.
Cavaleiro, Ana M. V. S. V. The Teaching of Precipitation Equilibrium: A New Approach. May, 423.
Erickson, Luther E.; Morris, Kevin. A Physical Chemistry Lab Project: The Effect of Composition on Several Physical Properties of Binary Mixtures of Common Liquids. October, 971.
García-Doménech, R.; de Julián-Ortiz, J. V.; Antón-Fos, G. M.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.
Green, David B.; Rechtsteiner, Gregory; Honodel, Amy. Determination of the Thermodynamic Solubility Product, $K_{sp}°$, of PbI_2 Assuming Nonideal Behavior: An Analytical Chemistry Experiment. August, 789.
Hawkes, Stephen J. Strategic Consequences from Errors in Raoult's Law Paper. January, 41.
Holmes Jr., L. H. Textbook Forum: The Solubility of Gases in Liquids. (TF) February, 143.
Leenson, I. A. Additional Kinetic Information. (LTE) August, 826.
Mazzacco, Charles J. The Effect of Solvent and Micelles on the Rate of Excited-State Deprotonation. (TD) March, 254.
McElroy, Lloyd J. Teaching Dilutions. (AA) August, 765.
Osterby, Bruce R.; McKelvey, Ronald D. Convergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. March, 260.
Osterby, Bruce R.; McKelvey, Ronald D. Con-

vergent Synthesis of Betaine-30, a Solvatochromic Dye: An Advanced Undergraduate Project and Demonstration. (Corrections) August, 737.
Phelps, Cindy L.; Smart, Neil G.; Wai, C. M. Past, Present, and Possible Future Applications of Supercritical Fluid Extraction Technology. December, 1163.
Pravia, Katia; Maynard, David F. Why Don't Water and Oil Mix? (OP) June, 497.
Ramachandran, B. R.; Allen, John M.; Halpern, Arthur M. Air–Water Partitioning of Environmentally Important Organic Compounds: An Environmental Chemistry or Integrated Laboratory Experiment. November, 1058.
Rocha, Fábio R. P.; Nóbrega , Joaquim A. Effects of Solution Physical Properties on Copper and Chromium Signals in Flame Atomic Absorption Spectrometry. October, 982.
Secrest, Don. Osmotic Pressure and the Effects of Gravity on Solutions. October, 998.
Smith, Kimberly Jo; Metz, Patricia A. Evaluating Student Understanding of Solution Chemistry through Microscopic Representations. March, 233.

Spectroscopy

Buccigross, Jeanne M.; Bedell, Cynthia M.; Suding-Moster, Heather L. Fluorescent Measurement of TNS Binding to Calmodulin: A Biochemistry Laboratory Experiment. March, 275.
Fietkau, Roland; Ahuja, Eric. A "V" Groove Nebulizer for Flame AAS. January, 102.
Hamilton, Jay R.; White, Jeffrey S.; Nakhleh, Mary B. Development of a Low-Cost Four-Color LED Photometer. November, 1052.
Henderleiter, Julie A.; Hyslop, Richard M. The Analysis of Riboflavin in Urine Using Fluorescence. June, 563.
Khundkar, Lutfur R. Mass Ratio of the Deuteron and Proton from the Balmer Spectrum of Hydrogen: Variation on an Undergraduate Physical Chemistry Experiment. November, 1055.
Lawrence, Barbara A.; Zanella, Andrew W. A Simple Method for Producing A Mixture of Gaseous HCl and DCl for Measuring Their Vibrational-Rotational Spectra. April, 367.
Markow, Peter G. Determining the Lead Content of Paint Chips: An Introduction to AAS. February, 178.
Marsh, Diane F.; Mink, Larry M. Microscale Synthesis and Electronic Absorption Spectroscopy of Tetraphenylporphyrin H_2(TPP) and Metalloporphyrins Zn^{II}(TPP) and Ni^{II}(TPP). (ML) December, 1188.
McNaught, Ian J.; Moore, Rory. Winspec: A Microwave Spectroscopy Tutor. (JCE: Software) June, 523.
Mina-Camilde, Nairmen; Manzanares I., Carlos; Caballero, Julio F. Molecular Constants of Carbon Monoxide at v = 0, 1, 2, and 3: A Vibrational Spectroscopy Experiment in Physical Chemistry. August, 804.
Mitschele, Jonathan. Beer–Lambert Law. (LTE) November, A260.
Peterson, Jim. Fluorometric Determination of Aluminum: A Quantitative Experiment for the Instrumental Analysis Laboratory. March, 262.
Pharr, Christine M.; Malmberg, Barry J.; Jegla, John D.; Gammon, Steven D. PVC Photometer: Computer-Assisted Spectroscopy Experiments. (CS #183) March, 238.
Quigley, Michael N.; Vernon, Frederick. A Matrix Modification Experiment for Use in Electrothermal Atomic Absorption Spectrophotometry. October, 980.
Ricci, Robert W.; Nestor, Lisa P. Beer–Lambert Law. (LTE) November, A261.
Rocha, Fábio R. P.; Nóbrega , Joaquim A. Effects of Solution Physical Properties on Copper and Chromium Signals in Flame Atomic Absorption Spectrometry. October, 982.
Shaw, Roosevelt; Hokmabadi, Mohammad. Raman Spectroscopic Determination of Heats of Vaporization of Pure Liquids. May, 474.

Stereochemistry

Lesko, Melanie J. Stereoisomer Bubbles. May, 429.
Mosher, Michael D.; Kelly, Chad O.; Mosher, Melvyn W. Examination of a Reaction Mechanism by Polarimetry: An Experiment for the Undergraduate Organic Chemistry Laboratory. June, 567.
Poiré, C.; Rabiller, C.; Chon, C.; Hudhomme, P. Enzymatic Resolution of (±)-Menthol Using Transesterification with Methyl (2*R*)-(+)-2-Chloropropanoate: A Biocatalyzed Reaction Studied by NMR Spectroscopy and Polarimetry for an Advanced Undergraduate Project in Modern Organic Chemistry. January, 93.
Rosan, Alan M. Visualizing the S_N2 Inversion. (LTE) October, A228.
Sauers, Ronald R. Steric Attraction: The Far Side. February, 114.
Sen, Stephanie E.; Aniker, Keith S. ^{1}H NMR Analysis of *R/S* Ibuprofen by the Formation of Diastereomeric Pairs: Microscale Stereochemistry Experiment for the Undergraduate Organic Laboratory. June, 569.
Thall, Edwin. When Drug Molecules Look in the Mirror. June, 481.

Stoichiometry

Brooks, David W. Square Roots of Negative Numbers. (LTE) May, 478.
Ferguson, Lawrence A. How Do I Balance Thee? ... Let Me Count the Ways! (TP) December, 1129.
Johnson, Steven D. An Empirical Formula from Ion Exchange Chromatography and Colorimetry. December, 1179.
Williams, Howard P. Square Roots of Negative Numbers. (LTE) May, 478.
Wruck, Betty J. Reinforcing Net Ionic Equation Writing: Second Semester. February, 149.

Surface Science

Okumura, Mitchio; Beauchamp, Jesse L.; Dickert, Jeffrey M.; Essy, Blair R.; Claypool, Christopher L. Undergraduate Laboratory for Surface Science. (NSF) February, 142.
Soran, Patrick D.; Neal, Everett E.; Smith, Barbara; Mullen, Ken I. On-Line Surfactant Monitoring by Foam Generation. August, 819.

TA Training

Birk, James P.; Kurtz, Martha J. Using Cooperative Learning Techniques To Train New Teaching Assistants. July, 615.

Teaching/Learning Aids

Adamchik, Jr., Charles F. The Design and Assessment of Chemistry Portfolios. (TP) June, 528.
Billo, E. Joseph. Displaying Chemical Formulas in Microsoft Excel. (CBB) February, A40.
Birk, James P.; Abbassian, Soraya. Teaching VSEPR: The Plastic Egg Model. July, 636.
Burness, James H. A General Chemistry Final Exam Based on the Chemical Literature. December, 1120.
Chowdhury, Mihir. Selection Rules for Processes Involving Photon–Molecule Interaction: A Symmetry-Conservation-Based Approach Bypassing Transition Matrix Elements. August, 743.
Craig, Norman C. Entropy Diagrams. August, 710.
Crawford, Rebecca D. Chem-Crostic. May, 454.
Dalby, David K. Bigger and Brighter Flame Tests. (TD) January, 80.
Darensbourg, Marcetta Y. Simple Techniques Can Give Pleasurable Results. November, A273.
Deavor, James P. Chemical Jeopardy. May, 430.
Dominic, Sheryl. What's a Mole For? (TP) April, 309.
Duncan, Robert L. Electronic Configuration Pattern Found in Pascal's Triangle. August, 742.
Eckey, Doris. A Millikan Oil Drop Analogy. (AA) March, 237.
Ferguson, Lawrence A. How Do I Balance Thee? ... Let Me Count the Ways! (TP) December, 1129.
Frohlich, H. On the Entropy Change of Surroundings of Finite and of Infinite Size: From Clausius to Gibbs. August, 716.
Glasser, Lesile; Bradley, John D.; Brink, George; van Zyl, Pam. CAI for Chemistry. (JCE: Software) April, 323.
Graham, Donald M. A 3-D Diagram of the Relationships among Atomic Orbitals. March, 210.
Graham, Donald M. Significant Figures in Graph Interpretation. March, 211.
Gross, Jr., Ray A. An Analysis of Ozonolysis for Classroom Instruction. November, 1019.
Harwood, W. S. The One-Minute Paper: A Communication Tool for Large Lecture Classes. March, 229.
Hauck, Christian. An Excel 4.0 Add-in Function To Calculate Molecular Mass. (CS #185) May, 433.
Hernandez, Sandra A.; Rodriguez, Nora M.; Quinzani, Oscar V. An Easily Constructed and Versatile Molecular Model. August, 748.
Hill, John W. Musk Oxen and Micelles. (AA) September, 847.
Hill, John W. Tape and Tetrahedra. June, 531.
Hollis Jr., W. Gary. *Jurassic Park* as a Teaching Tool in the Chemistry Classroom. January, 61.
Iyere, Peter Abeta. Reduction of Viologen Bisphosphate Dihalide with Aluminum Foil. (OP) May, 455.
Kim, Hie-Joon. Learning Chemistry through Numbers. (TP) March, 236.
Kogut, Leonard S. Using Quality Circles in General Chemistry. (FORUM) February, 146.
Lei, Lixu; Yao, Xuebin; Xin, Xinquan. Classroom Demonstration of Solid State Reaction at Room Temperature. (TD) November, 1018.
Lesko, Melanie J. Stereoisomer Bubbles. May, 429.
Ludwig, Oliver G. On Balancing "Redox Challenges". June, 507.
Ma, Ngai Ling. Quantum Analogies on Campus. (AA) November, 1016.
Mabrouk, Patricia Ann. Planning a Day at PITTCON: An Introduction to Current Trends in Analytical Research for Undergraduates. (TCI) February, A23.
March, Jerry. Helping Dyslexic Students. (LTE) September, A189.
Martin, John S. SIRs: Simulations and Interactive Resources, III. (JCE: Software) August, 722.
McClelland, Bruce W. An Omitted Collaborator. (LTE) June, 598.
McElroy, Lloyd J. Teaching Dilutions. (AA) August, 765.
Mitschele, Jonathan. Beer–Lambert Law. (LTE) November, A260.
Moore, John W.; Jacobsen, Jerrold J.; Gilbert, George; Jetzer, Kelly Houston; Mattes, Fred; Phillips, David; Lisensky, George; Zweerink, Gerald. ChemDemos II Videodisc: Abstract of Special Issue 14. (JCE: Software) September, 874.

Mosher, Michael D. A Chemical Genealogy Assignment. December, 1119.
Mullin, Jerome; Courtney, Pamela. Using Inexpensive "Find & Circle" Word Search Software in the Study of Chemical Nomenclature. (CBB) June, A130.
Ortega, Pedro A.; Guzman, Miguel E.; Vera, Leonel. Useful Spreadsheet for Updating Multistep Organic Synthesis. (CS #188) August, 726.
Painter, Terence J. A Mnemonic for the Inositols. October, 949.
Pogliani, Lionello; Berberan-Santos, Mário N. Inflation Rates, Car Devaluation, and Chemical Kinetics. October, 950.
Regis, Alberto; Albertazzi, Pier Giorgio; Roletto, Ezio. Concept Maps in Chemistry Education. November, 1084.
Ricci, Robert W.; Nestor, Lisa P. Beer–Lambert Law. (LTE) November, A261.
Rosan, Alan M. Visualizing the S_N2 Inversion. (LTE) October, A228.
Schnable, Joseph G.; Kowalewski, Mary S. Viewing and Printing Scientific and Math ASCII Characters on Old and New IBM Compatible Computers. (CBB) June, A130.
Sih, John C. A Consistent System for Coding Labratory Samples. July, 693.
Smith, Michael B. Disconnect by the Numbers: Protocol for the Synthesis of Alkanes. April, 304.
Solomon, Sally; Hur, Chinhyu; Lee, Alan. Diffusion Rate on the Overhead Projector: Amines Compared to HCl. (OP) January, 81.
Sotiriou-Leventis, Chariklia; Hanna, Samir B.; Leventis, Nicholas. Relative Stabilities and Reactivities of Isolated versus Conjugated Alkenes: Reconciliation via a Molecular Orbital Approach. April, 295.
Srikrishna, A. A Rapid Way of Computing the Number of Rings Present in a Polycyclic Organic Compound. May, 428.
Toloudis, Miriam. The Size of a Mole. (AA) April, 348.
Vitz, Ed; Binning, Robert. Inexpensive Exemplars for the Wave Model of Electronic Structure and Light. (TD) February, 171.
Waddell, Thomas G.; Rybolt, Thomas R. Sherlock Holmes and the Nebulous Nitro. December, 1157.
Zafran, Robert. From the Research Laboratory to the Classroom: A *Partners-in-Science* Experience. (TP) January, 78.

Teaching/Learning Theory/Practice

Adamchik, Jr., Charles F. The Design and Assessment of Chemistry Portfolios. (TP) June, 528.
Beall, H. Report on the WPI Conference "Demonstrations as a Teaching Tool in Chemistry: Pro and Con". July, 641.
Bieda, Kelly L.; Purrington, Suzanne T. The Neglected Element in Sophomore Organic Chemistry. August, 754.
Birk, James P.; Kurtz, Martha J. Using Cooperative Learning Techniques To Train New Teaching Assistants. July, 615.
Craig, Norman C. Entropy Diagrams. August, 710.
Darensbourg, Marcetta Y. Simple Techniques Can Give Pleasurable Results. November, A273.
Davies, Geoffrey. Cooperative Education: Experiential Cooperative and Study Abroad Education. (COOP) May, 438.
Delaware, Dana L.; Fountain, K. R. Computational Chemistry in the First Organic Chemistry Course: Applications in an Active Learning Situation. February, 116.
Delaware, Dana L.; Freeman, R. Griff; Moody, Anne E.; Van Galen, Dean. The Freshman Chemistry Seminar. (FORUM) February, 144.
Dods, Richard F. A Problem-Based Learning Design for Teaching Biochemistry. March, 225.
Felder, Richard M. Active-Inductive-Cooperative Learning: An Instructional Model for Chemistry? September, 832.
Frohlich, H. On the Entropy Change of Surroundings of Finite and of Infinite Size: From Clausius to Gibbs. August, 716.
Furio, Carlos; Calatayud, Mª Luisa. Difficulties with the Geometry and Polarity of Molecules: Beyond Misconceptions. January, 36.
Gulden, Warren. Using Physics Principles in the Teaching of Chemistry. (VIEW) August, 771.
Hansen, Lee D.; Garner, Judy L.; Wilson, Byron J.; Cluff, Coran L.; Nordmeyer, Francis R. Teaching Concepts in Beginning Chemistry with Simple Exploratory Experimenta. September, 840.
Harpp, David N.; Horgan, James J.; Jennings, James S. Crime in the Classroom: Part II. An Update. April, 349.
Harwood, W. S. The One-Minute Paper: A Communication Tool for Large Lecture Classes. March, 229.
Hixon, Susan H.; Sears, Jr., Curtis T. Systemic Changes in the Undergraduate Chemistry Curriculum Program Award and Course and Curriculum Development Program Awards. (NSF) June, 525.
Katz, Marlene. Teaching Organic Chemistry via Student-Directed Learning: A Technique that Promotes Independence and Responsibility in the Student. May, 440.
Kelter, Paul B.; Jacobitz, Kathleen; Kean, Elizabeth; Hoesing, Aurietha. A Chemistry Course for Elementary Education Majors: What is Possible When the Chemistry and Education Departments See Eye to Eye. (CK) October, 933.
Kogut, Leonard S. Using Quality Circles in General Chemistry. (FORUM) February, 146.
Kogut, Leonard S. Critical Thinking in General Chemistry. March, 218.
Laing, Michael. Bring Back Equivalent Weight—*If You Want the Kids To "Think"!* November, 1007.
Maroto, Beatriz; Camusso, Celso. Assessment of Knowledge Acquired in an Organic Chemistry Course. March, 231.
Mason, P. K.; Sarquis, A. M.; Williams, J. P. Take-Home Challenges: Extending Discovery-Based Activities beyond the General Chemistry Classroom. (NSF) April, 337.
Miller, Larry L. How to Get a Research Idea and Get Someone to Pay You to Work on It. April, 332.
Moore, John W. It's a Matter of Money. Or Is It? (Editorial) November, A257.
Nakhleh, Mary B.; Lowrey, Kirsten A.; Mitchell, Richard C. Narrowing the Gap between Concepts and Algorithms in Freshman Chemistry. August, 758.
Nocera, Daniel G.; Harrison, James F.; Reed, Dorothy A.; Roberts, Charles H. Enhanced Performance in Chemistry by Minorities at the University Level: A Comprehensive Program. December, 1131.
Ordman, Alfred B. Scientific Literature and Literacy: A Course of Practical Skills for Undergraduate Science Majors. August, 753.
Phelps, Amy J. Teaching to Enhance Problem Solving: It's More than the Numbers. April, 301.
Pine, Stanley H. The Society Committee on Education. November, A275.
Plumsky, Roger. Transmuted Labs. (VIEW) May, 451.
Regis, Alberto; Albertazzi, Pier Giorgio; Roletto, Ezio. Concept Maps in Chemistry Education. November, 1084.
Rettich, T. R.; Bailey, David N.; Frank, Forrest J.; Frick, Jeffrey A. An Integrated Curriculum for First- and Second-Year Chemistry Courses. (NSF) July, 638.
Russell, Arlene A.; Pavelich, Michael J. Faculty Rewards: Can We Implement the Scholarship of Teaching? A Summary of an Electronic Conference. November, A268.
Smith, Kimberly Jo; Metz, Patricia A. Evaluating Student Understanding of Solution Chemistry through Microscopic Representations. March, 233.
Smith, Stanley; Stovall, Iris. Networked Instructional Chemistry: Using Technology To Teach Chemistry. October, 911.
Spain, James D. Electronic Homework: Computer-Interactive Problem Sets for General Chemistry. March, 222.
Spencer, Harry E. Mathematical SAT Test Scores and College Chemistry Grades. December, 1150.
Trumbore, Conrad N.; Bevenour, Julie; Scantlebury, Kathryn. Chemistry and the Human Environment: A Course for Non-Science Majors. November, 1012.
Varco-Shea, Theresa C.; Darlington, Jeanne; Turnbull, Marilyn. Group Project Format in First-Semester General Chem Lab. June, 536.
Wojciechowski, Brenda J.; Deal, S. Todd. From Lecture Hall to the Laboratory: The Pinacol Rearrangement: Fostering Problem Solving Abilities and Critical Thinking Skills of the Organic Chemistry Student. January, 85.
Wright, John C. Authentic Learning Environment in Analytical Chemistry Using Cooperative Methods and Open-Ended Laboratories in Large Lecture Courses. September, 827.
Wruck, Betty J. Reinforcing Net Ionic Equation Writing: Second Semester. February, 149.
Zafran, Robert. From the Research Laboratory to the Classroom: A *Partners-in-Science* Experience. (TP) January, 78.
Zumdahl, Susan Arena. Mission Impossible? Improving Retention of Science Majors among Minorities and Women. November, A266.

Textbooks

Hawkes, Stephen J. Salts are Mostly *NOT* Ionized. May, 421.

Thermal Analysis

Crumpton, D. M.; Laitinen, R. A.; Smieja, J.; Cleary, D. A. Thermal Analysis of Carbon Allotropes: An Experiment for Advanced Undergraduates. June, 590.

Thermodynamics

Banerjee, Anil. Chemical Equilibrium. (LTE) November, A262.
Baonza, Valentín García; Cáceres, Mercedes; Núñez, Javier. Mechanical Coefficients of Liquids by a Differential Expansion Method: A Physical Chemistry Experiment. July, 690.
Brouwer, Henry. Work Done by a Chemical Reaction. (TD) April, 354.
Burness, James H. A Convenient, Inexpensive, and Environmentally Friendly Method of Measuring the Vapor Pressure of a Liquid as a Function of Temperature. October, 967.
Carpenter, D. K. A Controversy about the Gibbs Function: Introduction to the Paper Symposium. (SYM) May, 384.
Cooke, Ron C.; Willis, Grover C. Which E° Is it? The Story of a Student Discovery. (CP) May, 450.
Craig, Norman C. Entropy Diagrams. August, 710.
Dai, Sheng. Correct Regression Formula Used in Determination of Vaporization Enthalpy of Pure Liquids by UV-Visible Spectroscopy.

February, 122.
Deltete, Robert J.; Thorsell, David L. Josiah Willard Gibbs and Wilhelm Ostwald: A Contrast in Scientific Style. April, 289.
Erickson, Luther E.; Morris, Kevin. A Physical Chemistry Lab Project: The Effect of Composition on Several Physical Properties of Binary Mixtures of Common Liquids. October, 971.
Frohlich, H. On the Entropy Change of Surroundings of Finite and of Infinite Size: From Clausius to Gibbs. August, 716.
García-Doménech, R.; de Julián-Ortiz, J. V.; Antón-Fos, G. M.; Alvarez, J. Galvez. Determination of the Dissociation Constant for a Monoprotic Acid by Simple pH Measurements. August, 792.
Ginebreda, A. Entropy and Waste Recovery: Between Thermodynamics and Economy. August, 708.
Green, David B.; Rechtsteiner, Gregory; Honodel, Amy. Determination of the Thermodynamic Solubility Product, $K_{sp}°$, of PbI_2 Assuming Nonideal Behavior: An Analytical Chemistry Experiment. August, 789.
Greenberg, Fred H. Microscale Preparation of Difluorenylidene and *trans*-2,3-Dibenzoylspiro[cyclopropane-1-9′-fluorene]. (ML) November, 1043.
Holmes Jr., L. H. Textbook Forum: The Solubility of Gases in Liquids. (TF) February, 143.
Hornack, Frederick M. Thermodynamics of Air: Reinterpreting the Method of Clement and Desormes. October, 965.
Krieger, Albert G.; Henderson, John W. Notes on Vapor Pressure Equilibria Measurements. November, 1039.
Leenson, I. A. Additional Kinetic Information. (LTE) August, 826.
Logan, S. R. Chemical Equilibrium. (LTE) November, A261.
Manning, Thomas J. Approximating the Electrostatic Contribution to ΔS for Aqueous Phase Lanthanide–Aminocarboxylate Complexation. July, 661.
Noyes, Richard M. A Controversy about the Gibbs Function: Applications of the Gibbs Function to Chemical Systems and Subsystems. (SYM) May, 404.
Ochs, Raymond S. Thermodynamics and Spontaneity. October, 952.
Probst, Donald A.; Henderson, Giles. Zinc Electrodes and the Thermodynamics of a Galvanic Cell. October, 962.
Russell, Douglas K. The Boltzmann Distribution. (TF) April, 299.
Saieed, Alfred E.; Davies, Keith M. A Simple Method for Determining the Temperature Coefficient of Voltaic Cell Voltage. (F&R) October, 959.
Schäffer, Susan Cline; Schäffer, Claus E. Fundamental Issues of Thermodynamics Illuminated by Conspicuous Inorganic Chemistry: Oxidation of $[Co(H_2O)_6]^{2+}$ to $[Co(H_2O)_6]^{3+}$ by Hydrogen Peroxide: A Nonspontaneous Redox Reaction Made Feasible by Thermodynamic Coupling. February, 180.
Schomaker, Verner; Waser, Jurg. A Controversy about the Gibbs Function: Global Thermodynamics of Systems That Include Stressed Solids. (SYM) May, 386.
Secrest, Don. Osmotic Pressure and the Effects of Gravity on Solutions. October, 998.
Shaw, Roosevelt; Hokmabadi, Mohammad. Raman Spectroscopic Determination of Heats of Vaporization of Pure Liquids. May, 474.
Silberman, Robert G. Solubility and Thermodynamics: An Introductory Experiment. (F&R) May, 426.
Snow, Nicholas H. Determination of Free-Energy Relationships Using Gas Chromatography. June, 592.
Spencer, James N.; Moog, Richard S.; Gillespie, Ronald J. Demystifying Introductory Chemistry Part 4: An Approach to Reaction Thermodynamics through Enthalpies, Entropies, and Free Energies of Atomization. (FORUM) July, 631.
Sutter, Dieter H. Free Enthalpy, Lagrange Multipliers, and Thermal Expansion: A Possibly Novel Way To Derive the Law of Mass Action. August, 718.
Treptow, Richard S. Free Energy versus Extent of Reaction: Understanding the Difference between ΔG and $\partial G/\partial \xi$. January, 51.
Tykodi, R. J. A Controversy about the Gibbs Function: The Gibbs Function; Spontaneity and Walls. (SYM) May, 398.
Winder, Edmund J.; Ellis, Arthur B.; Lisensky, George C. Thermoelectric Devices: Solid-State Refrigerators and Electrical Generators in the Classroom. October, 940.
Wood, Scott E.; Battino, Rubin. The Gibbs Function Controversy. (SYM) May, 408.

Time-Dependent Reactions

Benini, Omar; Cervellati, Rinaldo; Fetto, Pasquale. The BZ Reaction: Experimental and Model Studies in the Physical Chemistry Laboratory. September, 865.
Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. (Corrections) November, A262.
Mitchell, Richard S. Iodine Clock Reaction. (TD) August, 783.
Pojman, John A.; West, William W. A Unified Physical Chemistry Laboratory Based on Oscillating Reactions and Traveling Fronts. (NSF) January, 35.
Strizhak, Peter; Menzinger, Michael. Nonlinear Dynamics of the BZ Reaction: A Simple Experiment That Illustrates Limit Cycles, Chaos, Bifurcations, and Noise. September, 868.

Titrimetry

Bonicamp, Judith M. Procedure Modification for the Use of Corn Starch Packing Puffs for Titration Endpoints. March, 258.
Crossno, S. K.; Kalbus, L. H.; Kalbus, G. E. Determinations of Carbon Dioxide by Titration: New Experiments for General, Physical, and Quantitative Analysis Courses. February, 175.
Deal, S. Todd; Pope, Sandi R. Improved End Point Detection in the Redox Titration of Vitamin C in Green Peppers. June, 547.
Hernlem, Bradley J. A Versatile and Economical Automated Titration Apparatus. (CS #189) September, 878.
Kildahl, Nicholas. A Simpler Approach to "Apparent" pK_a's. (LTE) June, 598.
Mossman, Daniel M.; Kooser, Robert G.; Welch, Lawrence. The Complexometric Determination of Calcium and Magnesium in Limestone Using a Laser Photometer for Endpoint Identification. January, 82.
Powell, Joyce R.; Tucker, Sheryl A.; Acree Jr., William E.; Sees, Jennifer A.; Hall, Lindsey H. A Student-Designed Potentiometric Titration: Quantitative Determination of Iron(II) by Caro's Acid Titration. October, 984.
Swim, James; Earps, Edward; Reed, Laura M.; Paul, David. Constant-Current Coulometric Titration of Hydrochloric Acid. July, 679.
Wood, John T.; Eddy, Roberta M. Olfactory Titration. (F&R) March, 257.

Transition Elements

Melrose, Melvyn P.; Scerri, Eric R. Why the 4*s* Orbital Is Occupied before the 3*d*. June, 498.

Urea

Cohen, Paul S.; Cohen, Stephen M. Wöhler's Synthesis of Urea: How Do the Textbooks Report It? (TF) September, 883.
ten Hoor, Marten J. The Formation of Urea: Controversies and Confusion. January, 42.
Tóth, Zoltán. A Demonstration of Wöhler's Experiment: Preparation of Urea from Ammonium Chloride and Potassium Cyanate. (TD) June, 539.

UV-Vis Spectroscopy

Dai, Sheng. Correct Regression Formula Used in Determination of Vaporization Enthalpy of Pure Liquids by UV-Visible Spectroscopy. February, 122.

Vitamins

Deal, S. Todd; Pope, Sandi R. Improved End Point Detection in the Redox Titration of Vitamin C in Green Peppers. June, 547.
Henderleiter, Julie A.; Hyslop, Richard M. The Analysis of Riboflavin in Urine Using Fluorescence. June, 563.

Water

Quigley, Michael N.; Vernot., Frederick. Determination of Trace Metal Ion Concentrations in Seawater. July, 671.
Vemulapalli, G. K.; Kukolich, S. G. Why Does a Stream of Water Deflect in an Electric Field? September, 887.
Zhou, Rei E. How To Offer the Optimal Demonstration of the Electroysis of Water. August, 786.

Women in Chemistry

Everett, Kenneth G.; DeLoach, Will S.; Bressan, Stephanie E. Women in the Ranks: Faculty Trends in the ACS-Approved Departments. February, 139.
Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women's Fields of Chemistry: 1900–1920. February, 136.
Rayner-Canham, Marelene F.; Rayner-Canham, Geoffrey W. Women In Chemistry: Participation during the Early 20th Century. March, 203.
Zumdahl, Susan Arena. Mission Impossible? Improving Retention of Science Majors among Minorities and Women. November, A266.

X-Rays

Pillay, A. E.; Peisach, M. High Resolution Energy Dispersive Spectrometry with Charge-Induced X-Rays: Principles, Comparison with Other Methods, and Possible Applications. June, 508.

Book Review Index

Book Titles

American Chemical Society Directory of Graduate Research, 1995 by The ACS Committee on Professional Training (George B. Kauffman). June, A136.

Aquatic Chemistry: Chemical Equilibria and Rates in Natural Waters, Third Edition by Werner Stumm and James J. Morgan (Nick Serpone). November, A277.

Basic Chemical Principles, Second Edition by Edward I. Peters and Robert C. Kowerski (Lawrence K. Duffy). February, A46.

Basic Chemisty, Seventh Edition and Alternate Edition by G. William Daub and William S. Seese (Thomas R. Tuttle). October, A241.

Basic Inorganic Chemistry, Third Edition by F. Albert Cotton, Geoffrey Wilkinson, and Paul L. Gaus (Laurence J. Boucher). January, A14.

Chemische Kabinettstucke: Spektakulare Esterimente und. geistreiche Zitate by H. W. Roesky and K. Möckel (George B. Kauffman). January, A15.

Chemistry by John McMurry and Robert C. Fay (Arnulf P. Hagen). February, A46.

Chemistry the Study of Matter and Its Changes, Second Edition by James E. Brady and John R. Holum (Peter L. Gold). October, A241.

Concepts in Physical Chemistry by Peter Atkins (George B. Kauffman). June, A136.

Creations of Fire: Chemistry's Lively History from Alchemy to the Atomic Age by Cathy Cobb and Harold Goldwhite (George B. Kauffman and Laurie M. Kauffman). May, A111.

Descriptive Inorganic Chemistry by Goeff Rayner-Canham (Daniel T. Haworth). August, A174.

A Discourse on the Art of Biography by The Pauling Symposium (Derek A. Davenport). September, A212.

Elements of General, Organic and Biological Chemisty, Ninth Edition by John R. Holum (John Ganchoff). June, A135.

Environmental Chemistry by Colin Baird (Patrick M. Owens). November, A276.

Environmental Chemistry, Second Edition by Peter O'Neill (Robert F. Drake). November, A276.

Essential Chemistry by Raymond Chang (Howard D. Dewald). October, A240.

Essentials of Chemistry, Second Edition by Ralph A. Burns (Robert D. Allendoerfer). October, A245.

Experimental Organic Chemistry: A Small Scale Approach, Second Edition by Charles F. Wilcox, Jr. and Mary F. Wilcox (Philip J. Chenier). April, A92.

The Extraordinary Chemistry of Ordinary Things by Carl H. Snyder (Ronald J. Gillespie). May, A110.

Force of Nature: The Life of Linus Pauling by Thomas Hager (Derek A. Davenport). September, A211.

Fundamentals of Chemistry, Second Edition by Ralph A. Burns (Robert D. Allendoerfer). October, A245.

General Chemistry, Second Edition by Jean B. Umland and Jon M. Bellama (Gordon A. Parker). October, A240.

Introduction to Chemistry, Seventh Edition by T.R. Dickson (Dean F. Martin). August, A174.

Introduction to College Chemistry, First Edition by Jerry A. Driscoll (John J. Alexander). October, A242.

Introduction to Environmental Chemistry by Nigel Bunce (Robert F. Drake). November, A278.

Lettere a Stanislao Cannizzaro 1868-1872; Stanislao Cannizzaro: Scritti di Storia Politica e Chimica; Corrispondenza Varia by Leonello Paoloni (George B. Kauffman). August, A178.

Linus Pauling: A Life in Science and Politics by Ted Goertzel and Ben Goertzel (Derek A. Davenport). September, A210.

Linus Pauling: A Man and His Science by Anthony Serafini (Derek A. Davenport). September, A210.

Linus Pauling in His Own Words by Barbara Marinacci (Derek A. Davenport). September, A211.

Linus Pauling: Scientist and Advocate by David E. Newton (Derek A. Davenport). September, A210.

Models of Matter: Principles and Perspectives of Chemistry by Gayl H. Wiegand (Henry C. Brenner). October, A243.

Organic Chemistry by William H. Brown (Martin R. Feldman). January, A13.

Organic Chemistry by Paula Yukanis Bruice (John A. Miller). April, A92.

Organic Chemistry Experiments: Microscale and Semi-Microscale by Bruce Campbell Jr. and Monica McCarthy Ali (John W. Hill). January, A14.

Organic Chemistry, Sixth Edition by T. W. Graham Solomons (Bruce A. Hathaway). December, A313.

Organic Chemistry, Third Edition by L.G. Wade, Jr. (W. Preston Reeves). January, A13.

Organic Chemistry, Third Edition by Francis A. Carey (Timothy D. Lash). December, A312.

The Periodic Kingdom: A Journey into the Land of the Chemical Elements by P.W. Atkins (George B. Kauffman). August, A177.

A Primer to Mechanism in Organic Chemistry by Peter Stykes (Stephen E. Branz). December, A313.

Principles of Medicinal Chemistry, Fourth Edition by William O. Foye, Thomas L. Lemke, and David A. Williams (B.S Thyagarajan). May, A110.

The Same *and* Not the Same by Roald Hoffmann (George B. Kauffman and Laurie B. Kauffman). February, A47.

The Second Law: Energy Chaos and Form, Revised Edition by P.W. Atkins (Lou Massa). June, A135.

Stereochemistry of Organic Compounds by Ernest L. Eliel and Samuel H. Wilen (Ronald D. McKelvey). August, A174.

Thinking About Matter: Studies on the History of Chemical Philosophy by John Hedley Brooke (George B. Kauffman). August, A177.

Book Authors

The ACS Committee on Professional Training. American Chemical Society Directory of Graduate Research, 1995 (George B. Kauffman). June, A136.

Atkins, P.W. The Periodic Kingdom: A Journey into the Land of the Chemical Elements (George B. Kauffman). August, A177.

Atkins, P.W. The Second Law: Energy Chaos and Form, Revised Edition (Lou Massa). June, A135.

Atkins, Peter. Concepts in Physical Chemistry (George B. Kauffman). June, A136.

Baird, Colin. Environmental Chemistry (Patrick M. Owens). November, A276.

Bellama, Jon M. and Umland, Jean B. General Chemistry, Second Edition (Gordon A. Parker). October, A240.

Brady, James E. and Holum, John R. Chemistry the Study of Matter and Its Changes, Second Edition (Peter L. Gold). October, A241.

Brooke, John Hedley. Thinking About Matter: Studies on the History of Chemical Philosophy (George B. Kauffman). August, A177.

Brown, William H. Organic Chemistry (Martin R. Feldman). January, A13.

Bruice, Paula Yukanis. Organic Chemistry (John A. Miller). April, A92.

Bunce, Nigel. Introduction to Environmental Chemistry (Robert F. Drake). November, A278.

Burns, Ralph A. Essentials of Chemistry, Second Edition (Robert D. Allendoerfer). October, A245.

Burns, Ralph A. Fundamentals of Chemistry, Second Edition (Robert D. Allendoerfer). October, A245.

Campbell Jr., Bruce and McCarthy Ali, Monica. Organic Chemistry Experiments: Microscale and Semi-Microscale (John W. Hill). January, A14.

Carey, Francis A. Organic Chemistry, Third Edition (Timothy D. Lash). December, A312.

Chang, Raymond. Essential Chemistry (Howard D. Dewald). October, A240.

Cobb, Cathy and Goldwhite, Harold. Creations of Fire: Chemistry's Lively History from Alchemy to the Atomic Age (George B. Kauffman and Laurie M. Kauffman). May, A111.

Cotton, F. Albert; Wilkinson, Geoffrey; Gaus, Paul L. Basic Inorganic Chemistry, Third Edition (Laurence J. Boucher). January, A14.

Daub, G. William and Seese, William S. Basic Chemisty, Seventh Edition and Alternate Edition (Thomas R. Tuttle). October, A241.

Dickson, T.R. Introduction to Chemistry, Seventh Edition (Dean F. Martin). August, A174.

Driscoll, Jerry A. Introduction to College Chemistry, First Edition (John J. Alexander). October, A242.

Eliel, Ernest L. and Wilen, Samuel H. Stereochemistry of Organic Compounds (Ronald D. McKelvey). August, A174.

Fay, Robert C. and McMurry, John. Chemistry (Arnulf P. Hagen). February, A46.

Foye, William O.; Lemke Thomas L.; Williams, David A. Principles of Medicinal Chemistry, Fourth Edition (B.S Thyagarajan). May, A110.

Gaus, Paul L; Cotton, F. Albert; Wilkinson, Geoffrey. Basic Inorganic Chemistry, Third Edition (Laurence J. Boucher). January, A14.

Goertzel, Ben and Goertzel, Ted. Linus Pauling: A Life in Science and Politics (Derek A. Davenport). September, A210.

Goertzel, Ted and Goertzel, Ben. Linus Pauling: A Life in Science and Politics (Derek A. Davenport). September, A210.

Goldwhite, Harold and Cobb, Cathy. Creations of Fire: Chemistry's Lively History from Alchemy to the Atomic Age (George B. Kauffman and Laurie M. Kauffman). May, A111.

Hager, Thomas. Force of Nature: The Life of Linus Pauling (Derek A. Davenport). September, A211.

Hoffmann, Roald. The Same *and* Not the Same (George B. Kauffman and Laurie B. Kauffman). February, A47.

Holum, John R. and Brady, James E. Chemistry the Study of Matter and Its Changes, Second Edition (Peter L. Gold). October, A241.

Holum, John R. Elements of General, Organic and Biological Chemisty, Ninth Edition (John Ganchoff). June, A135.

Kowerski, Robert C. and Peters, Edward I. Basic Chemical Principles, Second Edition (Lawrence K. Duffy). February, A46.

Lemke Thomas L.; Foye, William O.; Williams, David A. Principles of Medicinal Chemistry, Fourth Edition (B.S Thyagarajan). May, A110.

Marinacci, Barbara. Linus Pauling in His Own Words (Derek A. Davenport). September, A211.

McCarthy Ali, Monica and Campbell Jr., Bruce N. Organic Chemistry Experiments: Microscale and Semi-Microscale (John W. Hill). January, A14.
McMurry, John and Fay, Robert C. Chemistry (Arnulf P. Hagen). February, A46.
Möckel, K. and Roesky, H. W. Chemische Kabinettstucke: Spektakulare Esterimente und. geistreiche Zitate (George B. Kauffman). January, A15.
Morgan, James J. and Stumm, Werner. Aquatic Chemistry: Chemical Equilibria and Rates in Natural Waters, Third Edition (Nick Serpone). November, A277.
Newton, David E. Linus Pauling: Scientist and Advocate (Derek A. Davenport). September, A210.
O'Neill, Peter. Environmental Chemistry, Second Edition (Robert F. Drake). November, A276.
Paoloni, Leonello. Lettere a Stanislao Cannizzaro 1868-1872; Stanislao Cannizzaro: Scritti di Storia Politica e Chimica; Corrispondenza Varia (George B. Kauffman). August, A178.
The Pauling Symposium. A Discourse on the Art of Biography (Derek A. Davenport). September, A212.
Peters, Edward I. and Kowerski, Robert C. Basic Chemical Principles, Second Edition (Lawrence K. Duffy). February, A46.
Rayner-Canham, Goeff. Descriptive Inorganic Chemistry (Daniel T. Haworth). August, A174.
Roesky, H. W. and Möckel, K. Chemische Kabinettstucke: Spektakulare Esterimente und. geistreiche Zitate (George B. Kauffman). January, A15.
Seese, William S. and Daub, G. William. Basic Chemisty, Seventh Edition and Alternate Edition (Thomas R. Tuttle). October, A241.
Serafini, Anthony. Linus Pauling: A Man and His Science (Derek A. Davenport). September, A210.
Snyder, Carl H. The Extraordinary Chemistry of Ordinary Things (Ronald J. Gillespie). May, A110.
Solomons, T. W. Graham. Organic Chemistry, Sixth Edition (Bruce A. Hathaway). December, A313.
Stumm, Werner and Morgan, James J. Aquatic Chemistry: Chemical Equilibria and Rates in Natural Waters, Third Edition (Nick Serpone). November, A277.
Stykes, Peter. A Primer to Mechanism in Organic Chemistry (Stephen E. Branz). December, A313.
Umland, Jean B. and Bellama, Jon M. General Chemistry, Second Edition (Gordon A. Parker). October, A240.
Wade, Jr., L.G. Organic Chemistry, Third Edition (W. Preston Reeves). January, A13.
Wiegand, Gayl H. Models of Matter: Principles and Perspectives of Chemistry (Henry C. Brenner). October, A243.
Wilcox, Jr., Charles F. and Wilcox, Mary F. Experimental Organic Chemistry: A Small Scale Approach, Second Edition (Philip J. Chenier). April, A92.
Wilcox, Mary F. and Wilcox, Jr., Charles F. Experimental Organic Chemistry: A Small Scale Approach, Second Edition (Philip J. Chenier). April, A92
Wilen, Samuel H. and Eliel, Ernest L. Stereochemistry of Organic Compounds (Ronald D. McKelvey). August, A174.
Wilkinson, Geoffrey; Cotton, F. Albert; Gaus, Paul L. Basic Inorganic Chemistry, Third Edition (Laurence J. Boucher). January, A14.
Williams, David A.; Foye, William O.; Lemke Thomas L. Principles of Medicinal Chemistry, Fourth Edition (B.S Thyagarajan). May, A110.

Book Reviewers

Alexander, John J. Introduction to College Chemistry, First Edition by Jerry A. Driscoll. October, A242.
Allendoerfer, Robert D. Essentials of Chemistry, Second Edition by Ralph A. Burns. October, A245.
Allendoerfer, Robert D. Fundamentals of Chemistry, Second Edition by Ralph A. Burns. October, A245.
Boucher, Laurence J. Basic Inorganic Chemistry, Third Edition by F. Albert Cotton, Geoffrey Wilkinson, and Paul L. Gaus. January, A14.
Branz, Stephen E. A Primer to Mechanism in Organic Chemistry by Peter Stykes. December, A313.
Brenner, Henry C. Models of Matter: Principles and Perspectives of Chemistry by Gayl H. Wiegand. October, A243.
Chenier, Philip J. Experimental Organic Chemistry: A Small Scale Approach, Second Edition by Charles F. Wilcox, Jr. and Mary F. Wilcox. April, A92.
Davenport, Derek A. A Discourse on the Art of Biography by The Pauling Symposium. September, A212.
Davenport, Derek A. Force of Nature: The Life of Linus Pauling by Thomas Hager. September, A211.
Davenport, Derek A. Linus Pauling in His Own Words by Barbara Marinacci. September, A211.
Davenport, Derek A. Linus Pauling: A Life in Science and Politics by Ted Goertzel and Ben Goertzel. September, A210.
Davenport, Derek A. Linus Pauling: A Man and His Science by Anthony Serafini. September, A210.
Davenport, Derek A. Linus Pauling: Scientist and Advocate by David E. Newton. September, A210.
Dewald, Howard D. Essential Chemistry by Raymond Chang. October, A240.
Drake, Robert F. Environmental Chemistry, Second Edition by Peter O'Neill. November, A276.
Drake, Robert F. Introduction to Environmental Chemistry by Nigel Bunce. November, A278.
Duffy, Lawrence K. Basic Chemical Principles, Second Edition by Edward I. Peters and Robert C. Kowerski. February, A46.
Feldman, Martin R. Organic Chemistry by William H. Brown. January, A13.
Ganchoff, John. Elements of General, Organic and Biological Chemisty, Ninth Edition by John R. Holum. June, A135.
Gillespie, Ronald J. The Extraordinary Chemistry of Ordinary Things by Carl H. Snyder. May, A110.
Gold, Peter L. Chemistry the Study of Matter and Its Changes, Second Edition by James E. Brady and John R. Holum. October, A241.
Hagen, Arnulf P. Chemistry by John McMurry and Robert C. Fay. February, A46.
Hathaway, Bruce A. Organic Chemistry, Sixth Edition by T. W. Graham Solomons. December, A313.
Haworth, Daniel T. Descriptive Inorganic Chemistry by Goeff Rayner-Canham. August, A174.
Hill, John W. Organic Chemistry Experiments: Microscale and Semi-Microscale by Bruce Campbell Jr. and Monica McCarthy Ali. January, A14.
Kauffman, George B. American Chemical Society Directory of Graduate Research, 1995 by The ACS Committee on Professional Training. June, A136.
Kauffman, George B. Chemische Kabinettstucke: Spektakulare Esterimente und. geistreiche Zitate by H. W. Roesky and K. Möckel. January, A15.
Kauffman, George B. Concepts in Physical Chemistry by Peter Atkins. June, A136.
Kauffman, George B. and Kauffman, Laurie M. Creations of Fire: Chemistry's Lively History from Alchemy to the Atomic Age by Cathy Cobb and Harold Goldwhite. May, A111.
Kauffman, George B. Lettere a Stanislao Cannizzaro 1868-1872; Stanislao Cannizzaro: Scritti di Storia Politica e Chimica; Corrispondenza Varia by Leonello Paoloni. August, A178.
Kauffman, George B. The Periodic Kingdom: A Journey into the Land of the Chemical Elements by P.W. Atkins. August, A177.
Kauffman, George B. and Kauffman, Laurie M. The Same *and* Not the Same by Roald Hoffmann. February, A47.
Kauffman, George B. Thinking About Matter: Studies on the History of Chemical Philosophy by John Hedley Brooke. August, A177.
Kauffman, Laurie M. and Kauffman, George B. Creations of Fire: Chemistry's Lively History from Alchemy to the Atomic Age by Cathy Cobb and Harold Goldwhite. May, A111.
Kauffman, Laurie M. and Kauffman, George B. The Same *and* Not the Same by Roald Hoffmann. February, A47
Lash, Timothy D. Organic Chemistry, Third Edition by Francis A. Carey. December, A312.
Martin, Dean F. Introduction to Chemistry, Seventh Edition by T.R. Dickson. August, A174.
Massa, Lou. The Second Law: Energy Chaos and Form, Revised Edition by P.W. Atkins. June, A135.
McKelvey, Ronald D. Stereochemistry of Organic Compounds by Ernest L. Eliel and Samuel H. Wilen. August, A174.
Miller, John A. Organic Chemistry by Paula Yukanis Bruice. April, A92.
Owens, Patrick M. Environmental Chemistry by Colin Baird. November, A276.
Parker, Gordon A. General Chemistry, Second Edition by Jean B. Umland and Jon M. Bellama. October, A240.
Reeves, W. Preston. Organic Chemistry, Third Edition by L.G. Wade, Jr.. January, A13.
Serpone, Nick. Aquatic Chemistry: Chemical Equilibria and Rates in Natural Waters, Third Edition by Werner Stumm and James J. Morgan. November, A277.
Thyagarajan, B.S. Principles of Medicinal Chemistry, Fourth Edition by William O. Foye, Thomas L. Lemke, and David A. Williams. May, A110.
Tuttle, Thomas R. Basic Chemisty, Seventh Edition and Alternate Edition by G. William Daub and William S. Seese. October, A241.